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ABSTRACT

The Self-Sufficiency Project (SSP) entry effect experiment was designed to measure the effect of the future availability of an earnings supplement on the behavior of newly enrolled income assistance (IA) recipients. It used a classical randomized design. From a sample of 3,315 single parents who recently started a new period of IA, one-half were assigned to the program group and were informed that if they remained on IA for the next 12 months they would be eligible for the SSP supplement; the other half were assigned to the control group. SSP group members were asked questions and attended focus-group interviews to verify they understood the nature of the SSP supplement offer. Results indicated between one-half and three-fourths of them had relatively precise knowledge. The primary focus of the experiment was to determine whether some individuals would prolong their stay on IA to gain SSP eligibility. Analysis of the delayed exit effect suggested it was fairly small, on the order of 3 percentage points, i.e. 3 percent of all new applicants for IA. (Appendixes include additional data tables and list of 21 references.) (YLB)

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How Important Are "Entry Effects" in Financial Incentive Programs for Welfare Recipients? Experimental Evidence from the Self-Sufficiency Project

Social Research and Demonstration Corporation

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How Important Are "Entry Effects" in Financial Incentive Programs for Welfare Recipients? Experimental Evidence from the Self-Sufficiency Project

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SRDC

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August 1997

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Other SRDC reports on the Self-Sufficiency Project:

Creating an Alternative to Welfare: First-Year Findings on the Implementation, Welfare Impacts, and Costs of the Self-Sufficiency Project. Tod Mijanovich and David Long (Manpower Demonstration Research Corporation). December 1995.

The Struggle for Self-Sufficiency: Participants in the Self-Sufficiency Project Talk About Work, Welfare, and Their Futures. Wendy Bancroft and Sheila Currie Vernon (Social Research and Demonstration Corporation). December 1995.

Do Financial Incentives Encourage Welfare Recipients to Work? Initial 18-Month Findings from the Self-Sufficiency Project. David Card (Princeton University) and Philip K. Robins (University of Miami). February 1996.

When Work Pays Better Than Welfare: A Summary of the Self-Sufficiency Project's Implementation, Focus Group, and Initial 18-Month Impact Reports. March 1996.

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Introduction

An important concern in social policy design is that program innovations can lead to shifts in the size and composition of a program's participants, as potential participants re-evaluate the costs and benefits of joining the program. In the case of welfare, for example, it has long been recognized that a rise in benefit rates increases the incentive to enter welfare.[1] Moffitt (1992a) has stressed the potential attractiveness of employment and training programs as inducements for entering welfare.[2] The possibility that specific program features (such as the level of benefits or an offer of subsidized training) can lead people to alter their behaviour in order to become eligible for a program poses a challenge for policy evaluation. Most program innovations are evaluated by studying the responses of the *existing pool* of program participants. If a program change leads to a different participant pool, however, the behavioural effects and costs of the innovation may be different from the ones exhibited by existing participants. An evaluation that ignores such "entry effects" may then give an incomplete assessment of the program's overall effects.

Although there is increasing awareness of the importance of entry effects in interpreting the results from conventional program evaluations, empirical evidence on the actual magnitude of the entry effects associated with specific programs is limited. Moreover, most of the available evidence on entry effects is derived from nonexperimental evaluations and is subject to the usual caveats that apply to inferences derived from such methods.[3]

We are aware of five studies that use actual data to measure potential entry effects. All five compare welfare application rates in sites that have a training program for welfare recipients with application rates in sites that do not have training. Three of the studies examine the effect of a *mandatory* program on welfare applications. Two of those studies conclude, as anticipated, that mandatory programs make welfare less attractive and discourage entry (Chang, 1996; Phillips, 1993), while one study obtains a positive but statistically insignificant entry effect (Schiller and Brasher, 1993). Two other studies examine the entry effects associated with the availability of a *voluntary* training program. One of these (Johnson, Klepinger, and Dong, 1990) finds the expected positive entry effect, while the other (Wissoker and Watts, 1994) finds no significant effect on application rates.[4]

An issue in all of these studies is whether differences in welfare application rates at different sites arise because of behavioural responses to the availability of training or for other rea-

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[1]See Moffitt (1992b) for a review of incentive effects in the U.S. welfare system, and Dooley (1996) for a recent study of welfare participation among lone mothers in Canada. Ashenfelter (1983) presents a prototypical model of the incentives for participation in means-tested transfer programs.

[2]Moffitt also discusses a "deterrent" effect of mandatory training programs, arising when the requirements of the program are onerous and deter people from applying for welfare.

[3]The difficulties inherent in nonexperimental evaluation methods were underscored by LaLonde (1986). See the collection of papers in Manski and Garfinkel (1992).

[4]In addition to these five empirical studies, Moffitt (1996) uses a theoretical simulation model to assess the magnitude of entry effects for voluntary and mandatory training programs. Moffitt's analysis suggests that a mandatory training program with heavy time and participation requirements would reduce entry onto welfare, whereas a voluntary training program would increase entry. Much of the latter effect, however, arises from the assumption in his theoretical model that participants will perceive less of a stigma to being on welfare if they can participate in a training program, and *not* from the features of the training program itself.

sons. The studies use fixed-effects regression models with various control variables to adjust for differences that are not attributable to the program. Whether these adjustments are adequate is inherently problematic. Indeed, the results are often sensitive to changes in model specification, suggesting the need to interpret them with caution.

This paper reports findings from what we believe to be the first randomized evaluation of "entry effects" associated with a welfare program innovation.[5] The program — known as the Self-Sufficiency Project (SSP) — is currently being tested in Canada and offers single parents who have been on income assistance (IA) for a year or more an *earnings supplement* if they find full-time work and leave welfare.[6] Although SSP does not offer training, the results of the entry effect experiment may have implications for the size of the entry effects associated with other welfare program innovations, such as the provision of subsidized training.

The SSP supplement is generous: Individuals in British Columbia who work at least 30 hours per week receive one-half of the difference between their gross earnings and a target earnings level of $37,500 per year.[7] For example, an individual who works 30 hours per week at $7.50 per hour (roughly the median wage earned by SSP participants) earns $975 per month and receives a $1,075 monthly earnings supplement.[8] Early data show a sizeable take-up rate for the supplement offer and significant behavioural responses to the program.[9]

The attractiveness of the SSP supplement to the existing pool of long-term IA recipients raises the question of whether the availability of the supplement might lead some single parents to alter their behaviour in order to become eligible for SSP. Since the supplement is available only to individuals who have been on IA for 12 months or more, SSP creates two types of potential "entry effects." Some individuals who otherwise would not be on welfare might decide to begin an IA spell — a "new applicant effect"; while some IA recipients who otherwise would leave welfare within a year might decide to extend their stay to gain SSP eligibility — a "delayed exit" effect. In principle, both types of entry effects may be important. However, because the behavioural changes needed to generate delayed exit effects are probably far less extensive than those needed to create new applicant effects (which require people to bear the costs and stigma of applying for welfare), it seems likely that delayed exits are a more important source of entry effects. For this reason, and because of the large samples and potentially high costs of implementing an experimental test of new applicant effects,[10] the SSP entry effect experiment is limited to the analysis of delayed exit effects.

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[5]One other experimental evaluation of a welfare program similar to SSP that examined entry effects was the Seattle-Denver Income Maintenance Experiment (Keeley et al., 1978). In this study, entry effects took the form of a reduction in work effort by persons not initially eligible for benefits from a negative income tax (NIT) program. Entry effects for the NIT program were found to be negligible.

[6]The SSP supplement is explained in more detail below. See Mijanovich and Long (1995) for further details and Card and Robins (1996) for a preliminary evaluation of the supplement's impact on long-term welfare recipients.

[7]All dollar amounts in this paper are Canadian dollars (one Canadian dollar is approximately US$0.75).

[8]As discussed in Card and Robins (1996), because of differences in the way IA and SSP benefits are calculated, the *relative* generosity of SSP varies considerably across families and for certain families SSP benefits are not very generous relative to IA.

[9]For example, individuals who were offered the supplement had higher employment rates (+12 percentage points), higher monthly earnings (+ $137 per month), and lower welfare participation rates (–13 percentage points) than a randomly assigned control group (Card and Robins, 1996, Table 3).

[10]To test for a "new applicant" effect would require sampling from the entire population of lone mothers (those at

(continued)

The SSP entry effect experiment uses a classical randomized design. From a sample of single parents who recently started a new spell of IA, one-half were assigned to the program group and were informed that if they remained on IA for the next 12 months they would be eligible for the SSP supplement.[11] The other half of the sample were assigned to the control group (and were not made the offer). Because assignment was random, any differences in the behaviour of the two groups can be attributed to the "treatment" of an offer of SSP supplement eligibility. Specifically, any increase in the fraction of individuals who remain on IA in the program group relative to the control group is an estimate of the delayed exit effect induced by the SSP supplement offer.

The remainder of this paper describes the findings of the entry effect evaluation. It begins with a brief overview of the SSP program and the design of the entry effect experiment, and then summarizes some information on the 3,315 individuals participating in the experiment. The next section describes our attempts to verify that individuals in the program group understood the nature of the SSP supplement offer. Our main findings on the differences between the behaviour of the program and control groups are then presented, followed by a comparison of the behaviour of individuals in the program group who became eligible for SSP with the behaviour of individuals in the main SSP experiment, who were drawn from the existing pool of long-term IA recipients. The paper closes with our conclusions.

The SSP Experiment and the Evaluation of Entry Effects

Background

The Self-Sufficiency Project was conceived by an advisory committee of Human Resources Development Canada (the federal department responsible for welfare and employment policy) as a rigorous test of the value of financial incentives in encouraging work among long-term welfare recipients.[12] SSP's graduated earnings supplement is similar to the negative income tax proposals that were evaluated in social experiments in the United States and Canada during the 1970s (Robins, 1985; Hum and Simpson, 1991). Several features of the SSP program distinguish it from a conventional negative income tax, however. Most important, SSP is available only to single parents who have been on IA for over a year. This restriction was adopted to reduce the incentives for individuals to enter IA in order to receive the supplement — that is, to reduce entry effects. SSP payments are further limited to individuals who leave IA and find full-time work (one or more jobs that entail 30 or more hours of work per week). Unlike conventional family-income-based programs, the SSP supplement varies with individual earnings, and is unaffected by family size, nonlabour income sources, or other family members' incomes.[13] Finally,

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risk of becoming welfare recipients). Because so few of these lone mothers would actually respond by applying for welfare, a large sample would be required to obtain statistically significant effects.

[11]Families do not lose eligibility if they become a two-parent family subsequent to random assignment.

[12]See SRDC (1993) and Mijanovich and Long (1995) for more details on the design of the SSP experiment.

[13]Thus, the SSP supplement formula does not penalize single parents who receive child support, marry, or find a partner. However, because benefits from SSP don't increase with family size, SSP is relatively less generous than IA for larger families.

supplement payments are available for up to three years only, and only to individuals who qualify and begin receiving SSP payments within 12 months of their initial eligibility.

The overall SSP experiment consists of two experiments: the main (or "recipient") experiment and the entry effect experiment that is the focus of this paper. In the recipient experiment, a group of some 6,000 single parents in British Columbia and New Brunswick who had been on IA for at least a year were randomly divided into program and control groups. The program group was offered the earnings supplement while the control group was simply interviewed and followed. Initial results from an early cohort of participants in this experiment are described in Card and Robins (1996), and indicate a 25 percent SSP take-up rate among the program group during the fifth quarter of supplement eligibility.[14] Based on comparisons with the behaviour of the control group, about 60 percent of SSP participants are individuals who otherwise would have been expected to stay on IA, while 40 percent are individuals who would have been expected to leave IA and work full-time anyway. SSP payments among those who took the supplement in British Columbia averaged $900–$1,000 per month, just slightly less than the maximum IA grant available to a typical single parent.[15] These findings suggest that the supplement offer is a valuable benefit for many long-term welfare recipients, and underscore the importance of considering the possible additional costs associated with entry effects generated by the SSP supplement offer.

The Entry Effect Experiment

The SSP entry effect experiment is designed to measure the effect of the *future availability* of an earnings supplement on the behaviour of newly enrolled IA recipients. As noted earlier, behavioural changes among people already on IA represent only one of two possible sources of entry effects in response to the SSP supplement offer. Changes in the number and/or types of people who begin a new spell of IA may also arise, but are not directly evaluated in the experiment. We return to the question of the likely magnitude of these new applicant effects in the concluding section of the paper.

The entry effect experiment utilized a random sample of all single parents who had applied for and received IA between January 1994 and March 1995 in Vancouver and the surrounding area of lower mainland British Columbia. By definition, these individuals were beginning a new spell of IA, although a significant minority (31 percent) had received IA payments at some time in the two years prior to their most recent application.[16] After the IA application was approved and processed, both the British Columbia Ministry of Social Services and Statistics Canada (the data collection contractor for the experiment) mailed letters to 4,198 individuals informing them that they had been selected to participate in a research project. They were then contacted at home to complete a baseline interview and were asked to sign an informed consent form volunteering for the study and granting access to their administrative records. Ap-

[14]Overall, about 34 percent of the program group participated in SSP at some time during the first two years of supplement eligibility.

[15]For example, in the British Columbia program group, average monthly SSP payments among those with a positive payment were $892 in the twelfth month of the experiment and $957 in the seventeenth month. The maximum IA grant for an average family was $1,079 in British Columbia.

[16]Technically, only individuals who did not receive IA benefits during the six months prior to application were deemed eligible for the entry effect experiment.

proximately 80 percent (3,368) of individuals selected into the experiment completed the in-home baseline interview and signed the consent form.[17]

As shown in Appendix Table A1, most individuals (70 percent of the sample) had received one IA check before the month of random assignment, although some (less than .5 percent) had received as many as four checks and others (7 percent) had not yet received any. We use the month relative to the date of random assignment as a dating convention throughout this paper, since this is the month in which the "treatment" was administered.[18] This convention introduces some ambiguity, however, because different people reach their minimum 12-month stay on IA in different months after random assignment — anywhere from 8 to 12 months, depending on the number of IA checks received before random assignment. The overall experiment sample consists of 3,315 individuals: 1,648 in the program group and 1,667 in the control group.[19]

Immediately after the baseline interview, individuals were randomly assigned to either the program group or the control group, and received a letter explaining their status — that is, whether they had been assigned (randomly) to the program group or to the "overall study group" (i.e., the control group). The "treatment" received by the program group took the form of a letter and brochure informing them of their potential eligibility for SSP and explaining the nature of the supplement offer in more detail.[20] In addition, program group members were mailed a "reminder" seven months after their baseline interview. In both the initial and reminder letters, the supplement offer was outlined and program group members were instructed that "SSP can provide extra money (an 'earnings supplement') to certain people who are on IA"; they were also told of the eligibility rules — specifically, the necessity of receiving IA for 12 months in a row. The letters included a telephone number to call for more information, and about 10 percent of the program group contacted the Social Research and Demonstration Corporation (SRDC) office for clarification of the rules. The brochure was a multi-page leaflet (also used in the recipient experiment) that explained the eligibility rules and the SSP formula, and provided an example of the supplement payment for a typical individual.

Both program group and control group members were reinterviewed 11 months after receiving their first IA check — just prior to the completion of the minimum time that program

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[17]According to the interviewers, a main reason for nonresponse was that individuals had already left IA by the time they were contacted for their baseline interview. Among individuals who were still on IA but refused to participate, many felt that they would be off IA very quickly (some were on IA because they were waiting to receive Unemployment Insurance benefits) and were reluctant to take part in an experiment designed for welfare recipients. By excluding these short-termers from the sample, our estimates of delayed exit effects are likely to be overstated because none of these individuals would have been likely to respond to the SSP offer.

[18]Throughout this paper, the following convention is used: month 1 refers to the month of random assignment and month –1 refers to the previous month. (There is no month 0.)

[19]Originally, 3,368 individuals completed a baseline interview, but 53 of them were deleted from the final sample because they had not been off IA in the months prior to the month they were recorded as applying for IA, or because by the time they completed a baseline interview they had already spent two months off IA. Of these individuals, 23 were in the program group and 30 were in the control group. The criteria used to determine these deletions were independent of program-control status, and thus should not lead to any biases in estimated program impacts.

[20]The program assignment letters were mailed from the Social Research and Demonstration Corporation (SRDC) office, the research organization conducting the experiment in Canada. If the letter was returned to SRDC as undeliverable, it was forwarded to the relevant IA caseworker and resent to the last known address on the Ministry of Social Service's (MSS) IA information system. Only four letters were subsequently returned to the MSS as undeliverable by the post office.

group members would have to spend on IA in order to become eligible for SSP. This survey, along with the baseline interview and administrative records on IA recipiency and SSP payments, form the primary data sources for evaluating the entry effect experiment.

Sample Description

Table 1 presents information on the characteristics of individuals enrolled in the entry effect experiment, based on data from the baseline interview and IA records.[21] The first column of the table shows data for the overall sample, while columns 2 and 3 present data separately for the control and program groups. Since program status was randomly assigned, any differences in baseline characteristics of the two groups should arise only by chance. T-statistics for tests of equality of the mean characteristics of the groups are recorded in column 4. For comparative purposes, column 5 of Table 1 presents similar descriptive information for an early cohort of individuals enrolled in the SSP recipient experiment, and column 6 contains t-statistics for tests of equality between the characteristics of the entry effect and recipient samples.[22] Finally, column 7 presents data on the population that might be considered "at risk" of entering IA and becoming eligible for SSP — a sample of lone mothers in the province of British Columbia drawn from the 1991 Census.[23]

Several key features of the population of new welfare applicants and longer-term recipients emerge from Table 1. Single-parent IA recipients in British Columbia are overwhelmingly female, and tend to be relatively young and poorly educated. The fraction of recent applicants with less than a high school education is 41 percent, versus 54 percent among longer-term welfare recipients in the recipient sample, and 29 percent among all lone mothers in the province. As might be expected, new welfare applicants are somewhat less educated than the overall population of single mothers, but better educated than the group of single parents who have been on welfare for a year or more. Interestingly, immigrants make up a higher fraction of recent welfare applicants (30 percent) than they do of either the population of lone mothers (17 percent) or the population of longer-term welfare recipients (23 percent). This suggests that immigrant parents have higher rates of both entering and leaving welfare than do nonimmigrants. By comparison, the fraction of individuals of First Nation (aboriginal) ancestry in the SSP applicant population is less than their fraction in either the long-term recipient sample or the pool of all single mothers, suggesting that First Nation parents have lower welfare entry and exit rates than do other groups.

The family background data in Table 1 indicate that IA applicants and longer-term recipients come from relatively disadvantaged families with poorly educated parents, a high rate of

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[21]To avoid confusion with the SSP recipient experiment, we sometimes refer to individuals enrolled in the entry effect experiment as "applicants" or "new applicants." It should be understood that these individuals are new applicants who actually begin a spell of welfare.

[22]Note that the main SSP experiment is being conducted at sites in both British Columbia and New Brunswick, whereas the entry effect experiment was conducted in British Columbia only. In Table 1 we include only individuals in the British Columbia recipient sample.

[23]SSP is available only to single parents with children under age 19, whereas the sample of lone mothers in the 1991 Census includes women with older children. As a rough adjustment procedure, we constructed weights to down-weight the relative fraction of mothers in the census sample whose only child was over age 14. Our weighting procedure lowers the relative fraction of such mothers from 37 percent in the unweighted sample to 5.3 percent — the actual fraction of single parents in the SSP applicant sample whose only children are over age 15.

Table 1: Description of Baseline Characteristics of Entry Effect Sample, and Comparisons with the British Columbia Recipient Sample and British Columbia Lone Mothers in the 1991 Census

Variable	Overall Entry Effect Sample (1)	By Program Status			BC Recipient Sample		Lone Mothers in BC in 1991 Census (7)
		Control (2)	Program (3)	T-test[a] (4)	Means (5)	T-test vs. Applicants[b] (6)	
Personal characteristics							
Percent female	90.7	91.6	89.7	1.90	94.9	4.04	100.0
	(0.5)	(0.7)	(0.7)		(0.9)		--
Average age	32.5	32.3	32.6	1.11	32.5	0.23	34.6
	(0.1)	(0.2)	(0.2)		(0.2)		(0.2)
Percent under age 25	15.5	14.9	16.1	0.96	19.5	3.13	10.0
	(0.6)	(0.9)	(0.9)		(1.1)		(0.6)
Percent with less than high school education	41.4	41.4	41.4	0.03	53.8	7.53	29.2
	(0.9)	(1.2)	(1.2)		(1.4)		(0.9)
Percent high school grads, no post-secondary	38.3	37.7	39.0	0.72	34.1	2.70	32.2
	(0.8)	(1.2)	(1.2)		(1.3)		(1.0)
Percent with some post-secondary education	20.2	20.9	19.6	0.91	12.1	7.05	38.6
	(0.7)	(1.0)	(1.0)		(0.9)		(1.0)
Percent First Nation ancestry	8.9	9.8	7.9	1.95	12.4	3.38	11.2
	(0.5)	(0.7)	(0.7)		(0.9)		(0.7)
Percent immigrants	30.0	30.7	29.2	0.91	22.6	5.18	16.8
	(0.8)	(1.1)	(1.1)		(1.2)		(0.8)
Percent Asian ancestry	9.4	9.1	9.7	0.60	6.7	3.14	5.4
	(0.5)	(0.7)	(0.7)		(0.7)		(0.5)
Percent with physical limitation	19.8	19.6	20.0	0.31	26.6	4.76	--
	(0.7)	(1.0)	(1.0)		(1.2)		
Percent with emotional limitation	7.2	8.3	6.1	2.47	9.2	2.11	--
	(0.5)	(0.7)	(0.6)		(0.8)		
Family background							
Percent whose mother did not finish high school	51.7	51.5	51.9	0.20	54.2	1.41	--
	(0.9)	(1.3)	(1.3)		(1.5)		
Percent whose father did not finish high school	47.9	49.4	46.3	1.63	50.0	1.13	--
	(0.9)	(1.3)	(1.3)		(1.6)		
Percent lived with both parents at age 16	65.1	64.6	65.6	0.61	56.2	5.49	--
	(0.8)	(1.2)	(1.2)		(1.4)		
Percent whose family received IA	17.3	18.9	15.7	2.43	20.9	2.71	--
	(0.7)	(1.0)	(0.9)		(1.2)		
Family structure							
Number children (up to age 18)[c]	1.7	1.7	1.6	1.18	1.7	1.37	2.0
	(0.0)	(0.0)	(0.0)		(0.0)		(0.0)
Number children under age 6[c]	0.7	0.7	0.7	0.30	0.7	1.30	--
	(0.0)	(0.0)	(0.0)		(0.0)		
Percent separated, widowed, or divorced	70.6	70.0	71.2	0.78	54.0	10.33	70.6
	(0.8)	(1.1)	(1.1)		(1.4)		(0.9)

(continued)

Table 1, continued

Variable	Overall Entry Effect Sample (1)	By Program Status: Control (2)	By Program Status: Program (3)	By Program Status: T-test[a] (4)	BC Recipient Sample: Means (5)	BC Recipient Sample: T-test vs. Applicants[b] (6)	Lone Mothers in BC in 1991 Census (7)
Percent never married	23.7 (0.7)	24.7 (1.1)	22.6 (1.0)	1.37	44.3 (1.4)	13.11	26.0 (1.0)
Percent who own their own home	10.8 (0.5)	10.7 (0.8)	11.0 (0.8)	0.30	3.9 (0.5)	9.10	34.6 (1.0)
IA history							
Average number of months of IA in last three years	4.7 (0.1)	4.6 (0.2)	4.8 (0.2)	0.98	29.0 (0.2)	95.05	--
Average monthly IA payment at baseline[d]	862.0 (7.4)	874.6 (10.4)	849.2 (10.5)	1.71	1003.2 (8.0)	12.98	--
Expected 1-6-month stay on IA on entry[e]	31.2 (0.8)	31.2 (1.1)	31.1 (1.1)	0.06	--	--	--
Expected >6-month stay on IA on entry[e]	9.1 (0.5)	8.6 (0.7)	9.6 (0.7)	1.01	--	--	--
Entered IA because of relationship breakdown[e]	35.2 (0.8)	35.2 (1.2)	35.3 (1.2)	0.07	--	--	--
Work history							
Percent who ever worked for pay	96.7 (0.3)	96.3 (0.5)	97.0 (0.4)	1.19	94.6 (0.6)	2.87	97.7 (0.3)
Average number of years worked	10.5 (0.1)	10.3 (0.2)	10.7 (0.2)	1.46	7.9 (0.2)	11.29	--
Percent working at baseline	22.4 (0.7)	22.0 (1.0)	22.8 (1.0)	0.51	19.0 (1.1)	2.55	59.5 (1.0)
Sample size	3,315	1,667	1,648		1,264		2,349

Sources: SRDC analysis files of individuals in the SSP Entry Effect Demonstration (columns 1-4), the SSP Recipient Demonstration (column 5), and the 1991 Canadian Census (column 7). The sample in column 7 is weighted: lone mothers whose only children are age 15 or older receive a weight of 0.0953. See text.

Notes: Standard errors are given in parentheses. A double dash indicates that the data were not available.

[a]T-statistic for a test that the mean characteristics of individuals in the control group and program group are the same. Significance levels for a two-tailed t-test are 1.645 (10 percent), 1.96 (5 percent), and 2.576 (1 percent).

[b]T-statistic for a test that the mean characteristics of individuals in the entry effect sample (column 1) and the recipient sample (column 5) are the same.

[c]Typical standard errors for the means in this row are in the range 0.02-0.03. For the census sample this variable is derived from the size of the family.

[d]Average monthly IA received in the month prior to the baseline interview, or in cases where the individual received no benefits in that month, in the month following the baseline interview.

[e]These variables were collected retrospectively in the 12-month interview, and pertain to the start of the IA spell that led to entry into the entry effect sample.

single parenthood, and high rates of welfare participation. As expected, recent IA applicants have slightly more advantaged backgrounds than people in the recipient experiment, who must have been on welfare for at least 12 months to be included in the sample. These recent applicants also have a lower incidence of physical and emotional work limitations.

The family structure information in Table 1 shows that family sizes of IA applicants are not much different from those of longer-term recipients. A much sharper distinction between the two groups is in marital status. Twenty-four percent of recent IA applicants are never-married — close to the fraction never-married in the overall population of lone mothers, but far below the 44 percent of longer-term recipients. Recent IA applicants also have a higher rate of home ownership than do longer-term recipients, although much lower than the ownership rate of all lone mothers.

Not surprisingly, the IA histories of recent applicants and longer-term recipients are quite different. This gap is illustrated in Figure 1, which shows the fractions of the two groups receiving IA payments in various months. For new applicants the data are aligned relative to the month of random assignment in the entry effect experiment — on average, 1–3 months after the start of a new IA spell. For long-term recipients in the main SSP experiment, the data are aligned relative to the month of random assignment in that experiment. Since eligibility for the recipient sample is predicated on at least 12 months of IA receipt, IA recipiency rates are essentially 100 percent throughout the entire pre-baseline year. We also show post-random-assignment IA recipiency rates for the control groups of both experiments. New applicants leave IA much faster than do longer-term recipients, even in the absence of any program intervention.[24]

Returning to Table 1, the data show that recent IA applicants have slightly lower average IA benefit levels in the month before random assignment than do longer-term recipients. This gap is a result of a small fraction of "partial month" IA checks among new applicants: in later months, average IA payments (conditional on remaining on welfare) are similar among recent applicants and longer-term recipients.

Table 1 also presents some self-reported information about the reason for entering IA and about the expected duration of the welfare spell upon entry.[25] About one-third of recent applicants report that they expected to be on welfare less than six months when they first applied for IA. Another 10 percent expected a longer stay, while just over one-half of the sample had no idea (or were unable to answer). Some 35 percent of applicants entered IA because of a relationship breakdown. The remainder applied for welfare for a variety of reasons, including job loss, financial difficulties, and so on.

Finally, Table 1 contains data on the work histories of IA applicants, longer-term recipients, and lone mothers. Almost all recent applicants and long-term recipients have worked at some time in the past, although only about 20 percent were working at the baseline date,[26] compared with the roughly 60 percent employment rate among all lone mothers in British Columbia. Of course, lack of employment is an important reason why many lone mothers are on IA.

The descriptive data in Table 1 suggest a potentially useful taxonomy for thinking about

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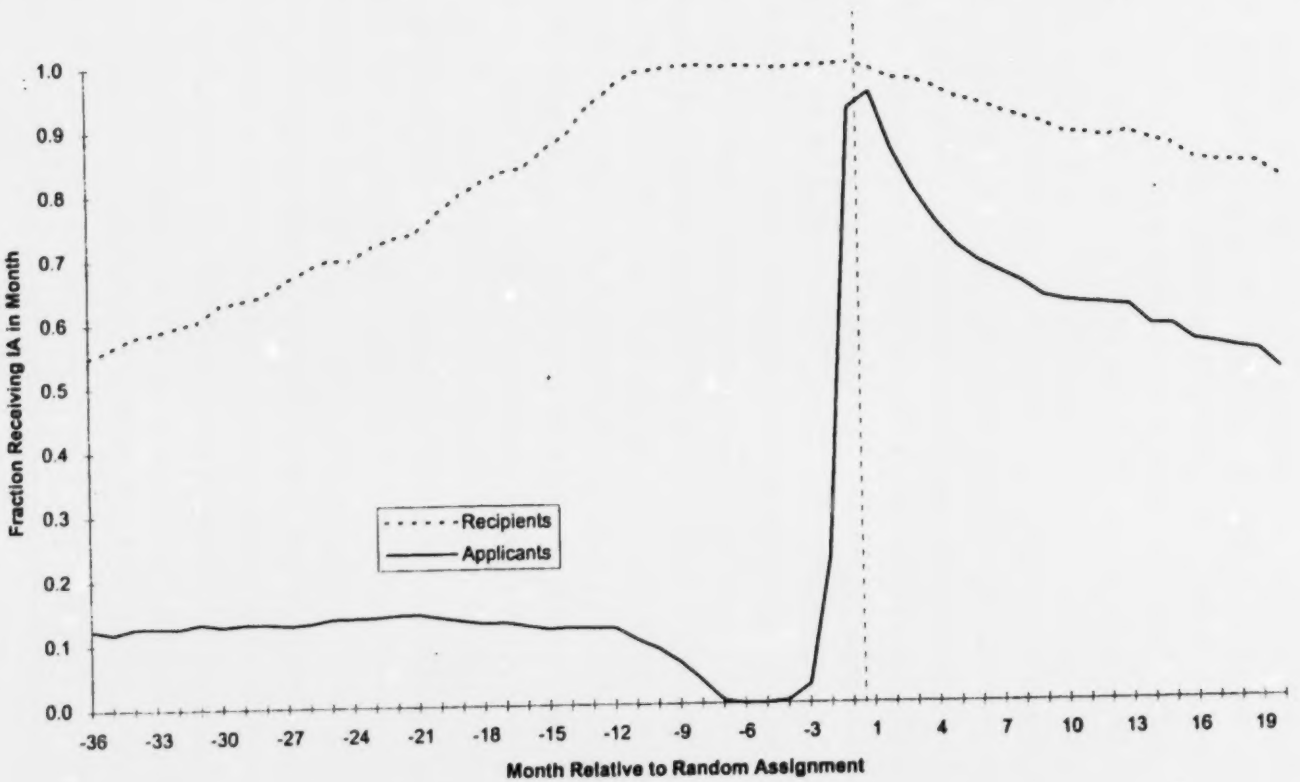
[24]Note that individuals in the recipient experiment are immediately eligible for an SSP supplement if they find full-time work, whereas individuals in the applicant experiment must wait 12 months before establishing eligibility.

[25]These data were collected in the 12-month survey rather than the baseline survey, and are hence retrospective.

[26]The similarity of employment rates at baseline for new applicants and longer-term recipients suggests that a fairly stable fraction of persons on IA work while receiving benefits.

Figure 1
Fractions of Individuals Receiving Income Assistance:
Recent Applicants in Entry Effect Demonstration Versus Long-Term Recipients in Recipient Demonstration



Note: Post-baseline data (month 1 and after) are for control groups only.

the magnitude of any "delayed exit" effect caused by the offer of an earnings supplement for individuals who stay on welfare for a year. On the one hand, many recent IA applicants have substantial work histories, and 20 percent have some post-secondary education. Moreover, many new applicants believe that they will be on IA for only a short time. The relatively high economic and psychic costs of staying on welfare for these highly motivated and job-ready individuals suggests that the SSP supplement offer is unlikely to influence their behaviour very much. On the other hand, a substantial fraction of recent IA applicants face long-run obstacles to self-sufficiency, including low education, physical or emotional difficulties, and unstable family relationships. Many of these individuals will remain on IA for a year or more regardless of any inducement created by the SSP supplement offer. The size of any delayed exit effect, therefore, depends on the behaviour of the "middle group" of single parents who are likely to remain on IA for more than a couple of months but less than a year in the absence of the supplement offer. To the extent that these individuals are willing to trade off the costs of remaining on IA for several extra months against the benefits of a potential earnings supplement, the SSP supplement offer will generate delayed exit effects.

Do People Understand the Treatment?

A fundamental issue in any social experiment is the question of external validity: Does the "treatment" in the experiment accurately reflect the program innovation that the experiment is meant to evaluate? In the SSP experiment, this is an especially difficult question because the "treatment" is the provision of information about a *potential* benefit available under a pr[illegible] in a year hence. If the SSP supplement was made a permanent feature of the IA system, a variety of informal and formal networks would, in all likelihood, gradually disseminate information about the program. Friends and family members would relate their experiences under SSP to people already on IA or contemplating entry.[27] In addition, case workers and advocacy groups would inform welfare recipients and potential recipients about the program. How well did the information provided in the entry effect experiment mimic these channels?

The answer to this question requires data from program group members on their knowledge about the SSP supplement *and* a benchmark against which to judge the quality of this knowledge. An obvious benchmark is the degree of knowledge about other benefits available to IA recipients who find work. Thus, in the 12-month survey, program group members were asked a series of questions about the SSP supplement offer, while people in both the program group and control group were asked about several key features of the British Columbia IA program.[28] These features included the "earnings disregard," which allowed people to earn up to $200 per

[27]Information might not pass perfectly because many IA recipients do not tell their friends or even their children that they are receiving IA benefits. For example, 23 percent of individuals in the entry effect experiment who were still on IA after 12 months reported that they had told none of their friends about being on IA. Among those who had left IA within 12 months, 33 percent reported that they told none of their friends. The importance of such "neighborhood" effects is discussed in the context of employment and training programs for welfare recipients by Garfinkel, Manski, and Michalopoulos (1992).

[28]A survey with similar questions was also administered to a subsample of 566 individuals in (roughly) the third month post-baseline. The results of this survey are very similar to the results for the 12-month survey.

month plus 25 percent of earnings in excess of that amount without affecting their IA benefits,[29] and so-called transitional benefits available to former IA recipients who find work and leave welfare.

Table 2 summarizes the responses to those questions. Panel A presents data for the program group's knowledge of the SSP program. As shown in row 1 of panel A, three-fourths of the program group recalled being informed of their potential eligibility. To probe participants regarding their knowledge of SSP, the researchers asked them an open-ended question: "What does the Self-Sufficiency Project offer participants?" Fifty-five percent of the program group responded that it offered extra money if they took a job, or they mentioned a wage supplement (row 2a). People who did not specifically mention the income benefits of the program were then asked a direct question — "Does SSP offer extra money to participants if they get a job?" — and 50 percent responded "yes." Summing the unprompted and prompted responses, 78 percent of the program group were aware that SSP offered extra income to participants (row 2b).[30]

Next, all individuals were asked a direct question on how long they had to stay on IA in order to become eligible for SSP. As shown in row 3 (panel A) of Table 2, 52 percent correctly responded that they had to receive IA for a year in order to qualify for the supplement.[31] Finally, individuals were asked an open-ended question about the other eligibility requirements for receiving the SSP supplement. Just over 60 percent of the program group mentioned that they had to find a job to qualify for benefits, with smaller fractions volunteering that they needed to leave IA and work at least 30 hours per week.[32] People who did not directly mention any of these three key requirements were then prompted with direct questions on the ones they missed. With prompting, the overall fractions of the program group who knew about the three key requirements ranged from 68 percent to 83 percent (see row 4b).

Based on these responses, we conclude that at least one-half and perhaps as many as three-fourths of the program group had relatively precise knowledge of the SSP program, including the facts that it would provide extra income and that the key eligibility requirements were receiving IA for a year and then leaving IA and working full time.

By comparison, as shown in panel B of Table 2, 56 percent of individuals in both the program and control groups of the experiment knew that if individuals on IA earned up to a certain amount of extra money, it would not affect their benefits (row 5), although only one-fourth knew the exact amount of the earnings disregard (row 6).[33] Similarly, as shown in row 7, about 55 percent of individuals knew that some services (for example, child care subsidies) were available to individuals who left IA. These figures suggest that a majority of IA recipients and former recipients have some knowledge of long-established IA benefit provisions, although the knowledge is far from complete. Knowledge of the SSP supplement among program group members of

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[29]The 25 percent, or "enhanced," disregard only applied to the first 12 months of earnings. The enhanced disregard was eliminated in January 1996.

[30]This finding presumably reflects an upper bound on knowledge of the financial benefits of SSP, because some of the prompted "yes" responses may have been guesses.

[31]An additional 11.6 percent of the program group responded that they would get money from SSP if they were on IA for one year from the baseline interview or simply for one year, without giving a time frame of reference.

[32]Note that 13 percent of individuals *incorrectly* mentioned that they had to enroll in schooling or training to receive SSP payments.

[33]It is possible that some persons who answered the disregard question were already working and were confused by the question, thinking that it referred to earnings above the disregard amount, which does affect their IA benefit.

Table 2: Knowledge of SSP and IA Program Rules

A. Knowledge of SSP Program (Program Group Only)

Knowledge Indicator	Percent of Program Group
1. Responded "yes" to question: "Were you informed that you would be eligible for SSP?"	75.1 (1.1)
2a. Without prompting responded that SSP offers extra extra money "if I get a job" (or similar language)	55.2 (1.3)
2b. With or without prompting responded that SSP offers extra money "if I get a job" (or similar language)	77.5 (1.1)
3. Responded to question: "How long does someone have to be on IA to receive money from SSP?"	
One year from receipt of first IA check	51.9 (1.3)
Some other specified time	17.1 (1.0)
Don't know	31.0 (1.2)
4a. Without prompting responded that one must do the following to receive SSP:	
Find a job	61.2 (1.2)
Leave IA	25.7 (1.1)
Work at least 30 hours per week	37.9 (1.2)
Enroll in school or training	13.2 (0.9)
4b. With or without prompting knew that one must do the following to receive SSP:	
Find a job	83.3 (1.0)
Leave IA	67.6 (1.2)
Work at least 30 hours per week	72.6 (1.1)

(continued)

Table 2, continued

B. Knowledge of IA Program (Program and Control Group)

Knowledge Indicator	Percent		
	Overall	Program Group	Control Group
5. Responded to question: "Can people earn money without affecting their IA benefit?"			
Yes	55.5	55.6	55.5
	(0.9)	(1.3)	(1.3)
No	30.7	30.8	30.7
	(0.8)	(1.2)	(1.2)
Don't know	13.7	13.5	13.9
	(0.6)	(0.9)	(0.9)
6. Responded "yes" to previous question, and knew the maximum amount is $200 per month	25.7	25.1	26.3
	(0.8)	(1.1)	(1.1)
7. Responded to question: "If someone leaves IA for a full-time job, are there services or additional benefits they can apply for?"			
Yes	55.6	54.3	57.0
	(0.9)	(1.3)	(1.3)
No	21.7	23.1	20.3
	(0.7)	(1.1)	(1.0)
Don't know	22.6	22.5	22.7
	(0.8)	(1.1)	(1.1)
8. Sample size[a]	3,055	1,528	1,527

Notes: Standard errors are given in parentheses. Tabulations are based on responses to the 12-Month Survey.

[a]The response rates for the survey were 92.7 percent for the program group and 91.6 percent for the control group.

the experiment appears comparable or even better.

A second source of information on the extent of the program group's knowledge about SSP is a set of four focus-group interviews with program group members conducted about 10 months after random assignment.[34] A total of 15 participants in two of these sessions had stayed on IA long enough to establish SSP eligibility (but were not yet formally notified of their status) while 15 participants in two other sessions had left IA within 4 to 10 months. Participants were recruited without mentioning SSP or the earnings supplement, and the focus group script did not mention SSP until the participants had engaged in unprompted discussions about their reasons for entering and leaving IA, and their attitudes toward IA versus work. In these exchanges only one individual mentioned SSP as a reason for remaining on IA. When queried about the SSP supplement, however, 26 of 30 participants recalled the program. Once reminded of SSP, 3 of the 15 people who had left IA mentioned that they had been tempted to remain on IA by the supplement offer, while 1 person who had stayed on IA specifically raised the SSP supplement as a reason for remaining on welfare. These results confirm that individuals in the program group had some knowledge of the SSP supplement, although the offer seemed to have played a limited role in the decision to leave or remain on IA for most individuals. Moreover, the SSP treatment, which consisted of letters and brochures, seems to have replicated what IA recipients might be expected to know about a "real world" SSP type of program through word of mouth and other formal and informal means of communication.

Impacts on Delayed Exits and Labour Market Outcomes

We now turn to behavioural comparisons between the program group and the control group in the entry effect experiment. We focus on three IA-related outcomes and three labour-market-related outcomes for each month after random assignment. The IA-related outcomes are an indicator for whether the individual is still potentially eligible for SSP (explained below), an indicator for whether the individual is on IA, and the amount of IA received in the month. These variables are all derived from IA records and are available for the full sample of 3,315 individuals in the applicant experiment. The three labour-market outcomes are an indicator for whether the individual worked in the month, total monthly earnings, and the total number of hours worked in the month. These variables are derived from the 12-month survey, and are available only for the subset of 3,055 individuals who completed that survey.[35]

Basic Impacts on IA-Related Outcomes

The primary focus of the applicant experiment is the question of whether some individuals would prolong their stay on IA in order to gain SSP eligibility. Although program group

[34]These are described and summarized in Bancroft (1996).

[35]The response rates for the 12-month survey were 92.7 percent for the program group and 91.6 percent for the control group. The gap (1.1 percent) is not statistically significant (t=1.2). Since the 12-month survey was administered after individuals had been on IA for 11–12 months, and the baseline survey was conducted 0–4 months into the IA spell, the 12-month survey provides between 7 and 12 months of post-baseline labor market data. All individuals have 7 months of survey data; 99.7 percent have 8 months; 97.7 percent have 9 months; and 80.2 percent have 10 months of data. Appendix Table 1 shows the numbers of months of post-random assignment data available for the overall sample and for individuals with different numbers of IA checks pre-random-assignment.

members were informed that they had to remain on IA continuously for 12 months in order to qualify for SSP, the actual eligibility criterion was relaxed slightly to permit up to one month off IA in the first 13 months after entering the system. This slippage was introduced to allow for the possibility that an individual might not receive a check in a certain month because of things like atypically high earnings. An individual in either the program group or the control group was therefore "potentially eligible for SSP" in a certain month if she had received an IA check in every month after her first check, or had missed at most one monthly check.[36]

Figure 2 shows the fractions of individuals in the program group and control group who had been on IA continuously in each month since receiving their first check, and also the fractions who met the less stringent SSP eligibility rule (all but one month on IA). Figure 3 shows the fractions of individuals in the program group and control group who received IA in any given month. In interpreting these figures (and as can be seen from Figure 3), it is important to keep in mind that different individuals may have received between zero and four IA checks before their baseline interview. Thus, a few individuals actually reached SSP eligibility (that is, had amassed 12 months on IA) by the eighth month after random assignment, whereas some other individuals' final eligibility was determined only in month 13. The SSP eligibility variable (Figure 2) is coded as 1 for all individuals who are still potentially eligible (that is, have missed no more than one IA check) *or* have already reached eligibility: hence, the full impact of the entry-effect "treatment" is measured by the variable representing potential eligibility in month 13.[37] The effect on IA receipt in month 13, on the other hand, may combine positive entry effects with negative "exit" effects resulting from qualified individuals leaving IA to take up the SSP supplement.

The data in Figures 2 and 3 show evidence of a modest delayed exit effect among the program group relative to the control group. The magnitude of the effect is similar using either the fraction of people on IA continuously for 12 months since their first IA check, the potential eligibility variable, or the simple IA receipt variable. After a year, about 2.5 percentage points more of the program group than the control group are still on IA or still potentially eligible for SSP. Interestingly, the relative fraction on IA reverses by the sixteenth month, presumably reflecting the impact of SSP take-up by the program group. (See below.)

Table 3 presents more detailed information on the eligibility rates and other outcomes of the program and control groups. For each outcome variable in each month after random assignment, the table shows the mean outcome among the control group, the mean outcome among the program group, the "raw" program impact — which is simply the difference in mean outcomes between the programs and controls — and an "adjusted" program impact, which is the coefficient

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[36]Members of the control group were never offered SSP, but their eligibility status is needed to derive an estimate of the "treatment" effect.

[37]Because of the program rules, the SSP eligibility variable doesn't change after the thirteenth month for either program or control group members (i.e., the lines in Figure 2 become flat).

Figure 2 ·
Fraction of Individuals On Continuous Income Assistance and Fraction Still Eligible for SSP:
Program Group Versus Control Group

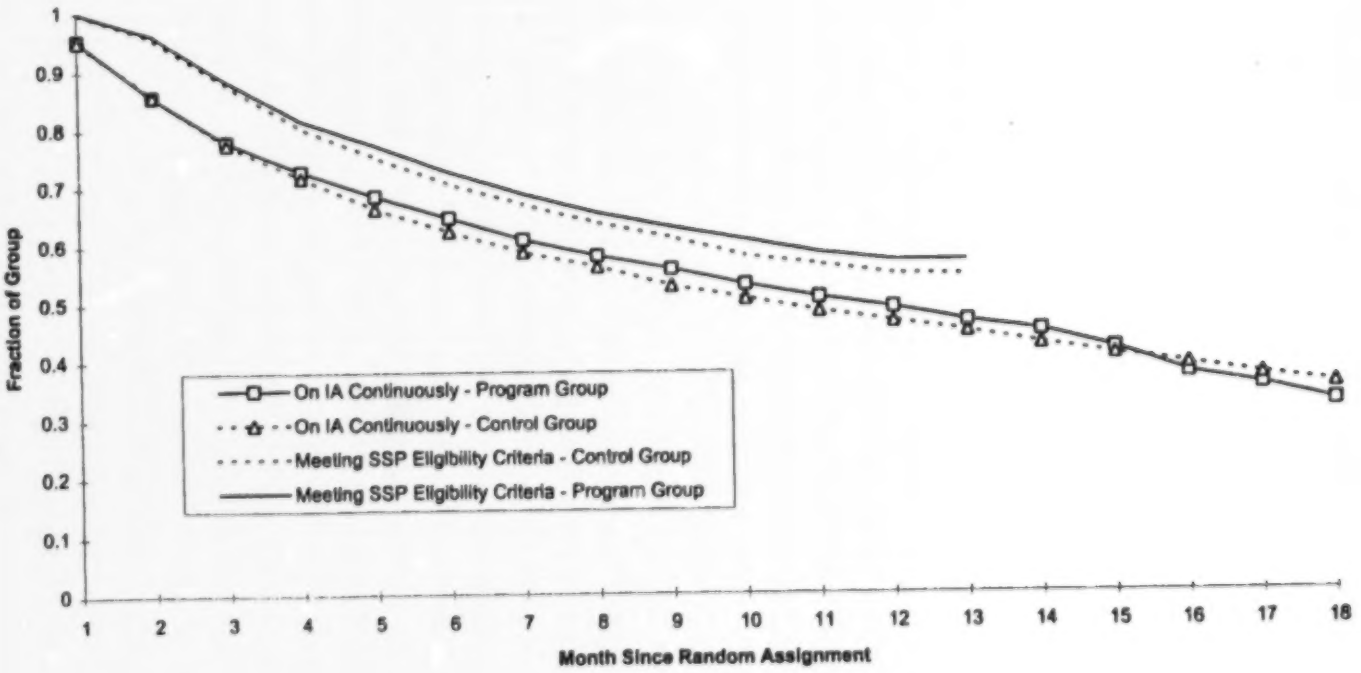

Figure 3
Fraction of Applicants Receiving Income Assistance Benefits in Any Given Month

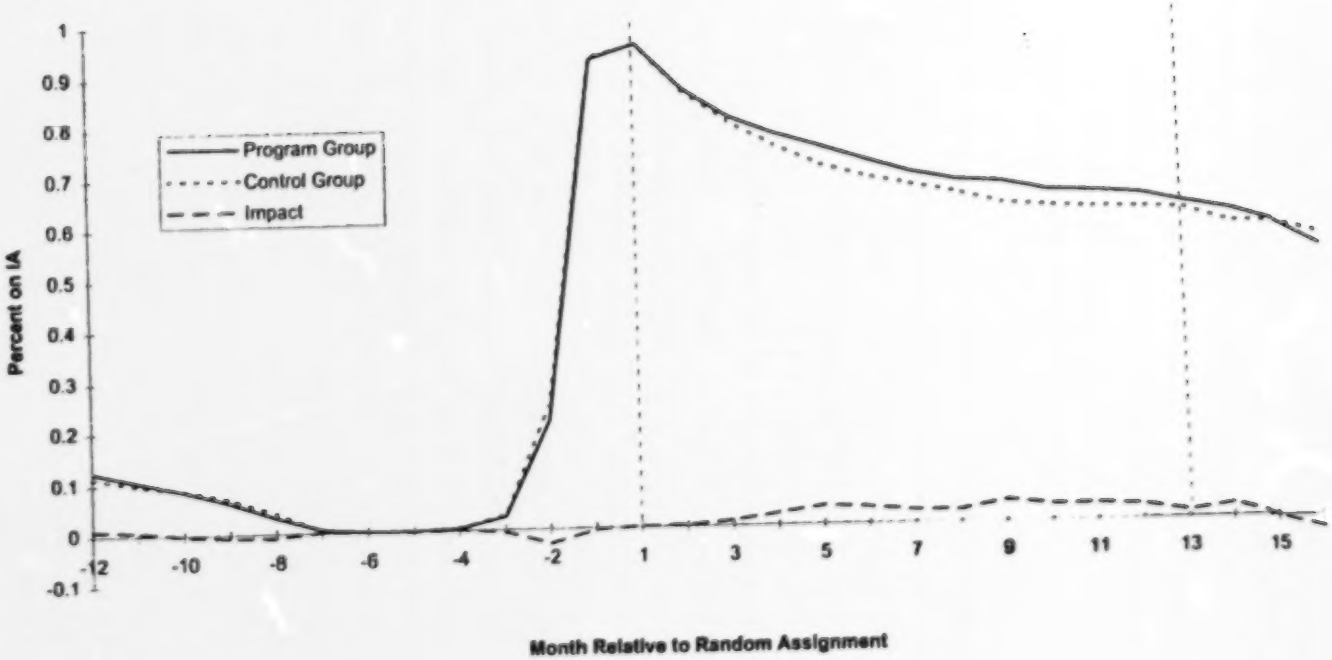

Table 3a: Means of Income Assistance by Program Group and Estimated Impacts of Applicant Program

Month	Percent Still Eligible for SSP				Percent On Income Assistance				Average Monthly IA Amount ($)			
			Estimated Impact				Estimated Impact				Estimated Impact	
	Controls	Programs	Raw	Adjusted	Controls	Programs	Raw	Adjusted	Controls	Programs	Raw	Adjusted
1	100.0 N/A	100.0 N/A	0.0 N/A	0.0 N/A	95.2 (0.5)	95.3 (0.5)	0.1 (0.7)	0.2 (0.7)	940.6 (9.2)	927.9 (9.6)	-12.6 (13.3)	-1.5 (11.8)
2	95.7 (0.5)	96.2 (0.5)	0.5 (0.7)	0.6 (0.7)	86.3 (0.8)	86.5 (0.8)	0.2 (1.2)	0.4 (1.1)	848.0 (11.0)	837.3 (11.3)	-10.7 (15.8)	2.3 (13.6)
3	87.7 (0.8)	88.2 (0.8)	0.5 (1.1)	0.7 (1.1)	79.9 (1.0)	80.9 (1.0)	1.0 (1.4)	1.2 (1.3)	800.3 (12.1)	786.5 (12.0)	-13.8 (17.0)	-3.5 (14.8)
4	80.2 (1.0)	81.4 (1.0)	1.2 (1.4)	1.5 (1.3)	75.0 (1.1)	77.4 (1.0)	2.3 (1.5)	2.6* (1.4)	759.4 (12.6)	752.1 (12.4)	-7.4 (17.7)	2.6 (15.7)
5	75.2 (1.1)	77.2 (1.0)	2.1 (1.5)	2.4* (1.4)	71.1 (1.1)	74.7 (1.1)	3.6** (1.5)	3.9*** (1.5)	715.1 (12.9)	718.2 (12.4)	3.1 (17.9)	14.4 (16.1)
6	70.4 (1.1)	72.5 (1.1)	2.1 (1.6)	2.5* (1.5)	68.6 (1.1)	71.8 (1.1)	3.2** (1.6)	3.4** (1.5)	682.6 (13.1)	695.9 (12.8)	13.2 (18.4)	24.1 (16.6)
7	66.8 (1.2)	68.6 (1.1)	1.7 (1.6)	2.1 (1.5)	66.9 (1.2)	69.3 (1.1)	2.4 (1.6)	2.6* (1.5)	660.8 (13.1)	672.2 (13.0)	11.4 (18.4)	21.0 (16.8)
8	63.6 (1.2)	65.4 (1.2)	1.7 (1.7)	2.0 (1.6)	65.3 (1.2)	67.6 (1.2)	2.3 (1.6)	2.7* (1.6)	648.0 (13.2)	653.4 (13.0)	5.4 (18.5)	14.3 (17.0)
9	61.1 (1.2)	62.9 (1.2)	1.8 (1.7)	2.2 (1.6)	62.9 (1.2)	67.1 (1.2)	4.1** (1.7)	4.3*** (1.6)	621.7 (13.3)	654.8 (13.2)	33.1* (18.8)	41.9*** (17.4)
10	57.9 (1.2)	60.7 (1.2)	2.8 (1.7)	3.1* (1.6)	62.2 (1.2)	65.3 (1.2)	3.1* (1.7)	3.3* (1.6)	619.7 (13.6)	637.3 (13.2)	17.6 (18.9)	27.1 (17.6)
11	56.3 (1.2)	58.4 (1.2)	2.1 (1.7)	2.5 (1.6)	61.8 (1.2)	65.0 (1.2)	3.1* (1.7)	3.4** (1.6)	611.7 (13.3)	634.9 (13.2)	23.2 (18.8)	34.0* (17.5)
12	54.5 (1.2)	56.9 (1.2)	2.4 (1.7)	2.9* (1.6)	61.6 (1.2)	64.4 (1.2)	2.8* (1.7)	3.0* (1.6)	608.7 (13.4)	622.5 (13.1)	13.8 (18.7)	22.7 (17.5)
13	54.3 (1.2)	56.9 (1.2)	2.6 (1.7)	3.1* (1.6)	61.2 (1.2)	62.5 (1.2)	1.3 (1.7)	1.5 (1.6)	603.3 (13.2)	614.8 (13.2)	11.5 (18.7)	19.5 (17.5)

(continued)

Table 3a, continued

Notes: Estimated standard errors are given in parentheses. N/A = not applicable. SSP eligibility and income assistance outcomes are derived from Income Assistance records. Estimated impacts are differences in mean outcomes between individuals in the program group and control group. The raw estimated impact is a simple difference in mean outcomes; the adjusted estimated impact is derived from a regression model that includes 42 covariates and an indicator for individuals in the program group. See text for a list of the included covariates.

Models for SSP eligibility, probability of IA receipt, and amount of IA received are estimated on the full sample of 3,315 individuals in the SSP Applicant Study sample.

For months 1-7 the sample size is 3,055; for month 8 the sample size is 3,045, for month 9 the sample size is 2,986, and for month 10 the sample size is 2,450.

Significance levels are as follows for impacts, two-tailed t-test: *p<10 percent, **p<5 percent, ***p<1 percent.

Table 3b: Labour Market Outcomes by Program Group and Estimated Impacts of Applicant Program

Month	Percent Employed				Average Monthly Earnings ($)				Average Monthly Hours of Work			
			Estimated Impact				Estimated Impact				Estimated Impact	
	Controls	Programs	Raw	Adjusted	Controls	Programs	Raw	Adjusted	Controls	Programs	Raw	Adjusted
1	27.6	27.0	-0.7	-0.7	299.9	264.9	-35.0	-34.3*	29.7	26.1	-3.5*	-3.7**
	(1.1)	(1.1)	(1.6)	(0.8)	(18.2)	(16.3)	(24.4)	(18.2)	(1.5)	(1.4)	(2.1)	(1.3)
2	28.6	28.3	-0.3	-0.2	324.0	288.7	-35.3	-37.0	32.0	28.6	-3.4	-3.8**
	(1.2)	(1.2)	(1.6)	(1.1)	(18.9)	(17.3)	(25.6)	(21.1)	(1.6)	(1.4)	(2.2)	(1.6)
3	29.4	30.6	1.2	1.0	349.4	328.5	-20.9	-24.2	33.8	32.4	-1.3	-1.9
	(1.2)	(1.2)	(1.7)	(1.3)	(19.9)	(18.4)	(27.1)	(23.3)	(1.6)	(1.5)	(2.2)	(1.8)
4	30.8	31.7	1.0	0.7	374.6	362.0	-12.6	-15.9	35.5	35.2	-0.2	-1.0
	(1.2)	(1.2)	(1.7)	(1.3)	(20.8)	(19.5)	(28.5)	(25.3)	(1.7)	(1.6)	(2.3)	(2.0)
5	31.8	34.1	2.3	2.1	392.8	391.9	-0.9	-4.7	37.0	37.8	0.7	0.0
	(1.2)	(1.2)	(1.7)	(1.4)	(21.5)	(20.2)	(29.5)	(26.5)	(1.7)	(1.7)	(2.4)	(2.1)
6	33.3	35.3	1.9	1.8	399.0	416.4	17.4	13.5	38.3	39.8	1.5	0.8
	(1.2)	(1.2)	(1.7)	(1.4)	(21.4)	(21.0)	(29.9)	(27.1)	(1.7)	(1.7)	(2.4)	(2.1)
7	34.1	36.0	1.9	1.6	405.2	428.7	23.5	20.1	39.5	40.8	1.3	0.6
	(1.2)	(1.2)	(1.7)	(1.5)	(21.3)	(21.3)	(30.2)	(27.5)	(1.7)	(1.7)	(2.4)	(2.2)
8	35.4	36.4	1.1	0.6	426.0	442.6	16.6	12.8	40.8	42.0	1.2	0.4
	(1.2)	(1.2)	(1.7)	(1.5)	(21.7)	(21.8)	(30.8)	(28.3)	(1.8)	(1.7)	(2.5)	(2.2)
9	36.4	38.0	1.7	1.4	442.8	447.0	4.2	1.3	42.2	42.5	0.2	-0.5
	(1.2)	(1.3)	(1.8)	(1.5)	(22.7)	(21.4)	(31.2)	(28.6)	(1.8)	(1.7)	(2.5)	(2.3)
10	37.3	38.5	1.2	0.6	434.3	460.2	25.9	23.3	42.1	43.3	1.2	0.4
	(1.4)	(1.4)	(2.0)	(1.7)	(24.4)	(24.2)	(34.4)	(31.7)	(2.0)	(1.9)	(2.7)	(2.5)

Notes: Estimated standard errors are given in parentheses. Employment, earnings, and hours data are derived from the 12-month survey. Estimated impacts are differences in mean outcomes between individuals in the program group and control group. The raw estimated impact is a simple difference in mean outcomes; the adjusted estimated impact is derived from a regression model that includes 42 covariates and an indicator for individuals in the program group. See text for a list of the included covariates.

Models for employment, earnings, and hours are estimated on subsamples of individuals who responded to the 12-month survey and reported the requisite months of data. For months 1-7 the sample size is 3,055; for month 8 the sample size is 3,045, for month 9 the sample size is 2,986, and for month 10 the sample size is 2,450.

Significance levels are as follows for impacts, two-tailed t-test: *p<10 percent, **p<5 percent, ***p<1 percent.

of a dummy variable for program group members in an ordinary least squares (OLS) regression model that includes 42 baseline characteristics as additional covariates.[38] Although the randomized design ensures that valid program estimates can be obtained without controlling for the characteristics of individuals in the two groups, the addition of the covariates may lead to more precise estimates, and also adjusts for any minor differences in the distribution of the baseline characteristics between the program and control groups.

An examination of the program impacts in Table 3 suggests two key conclusions. First, as indicated in Figures 2 and 3, the magnitude of the delayed exit effect among new IA applicants is relatively modest. The unadjusted program impact on final (month 13) SSP eligibility is 2.6 percentage points (t-ratio = 1.52; p-value = 0.13) while the adjusted impact is 3.1 percentage points (t-ratio = 1.88; p-value = 0.06). The impacts on the fraction of the sample receiving IA are quite similar, at least up to the eleventh month, when the majority of the sample are in their twelfth month of welfare recipiency. For example, the unadjusted impact on the probability of IA receipt in month 11 is 3.1 percentage points (t-ratio = 1.88; p-value = 0.06), while the adjusted impact is 3.4 percentage points (t-ratio = 2.13; p-value = 0.03).[39]

Second, the fact that the estimated impacts are close to zero in the first few months after random assignment suggests that very few people who would normally leave IA within four months are willing to extend their spell up to a full year in order to become eligible for SSP. In light of this finding, we believe it is unlikely that the availability of the SSP supplement would induce many people who would otherwise not be on IA at all to enter welfare and stay for a full year. (That is, a "new applicant" effect is unlikely.)

While the delayed exit effects induced by the SSP supplement offer are quite modest (on the order of 3 percentage points), it is important to note that the eligibility behaviour of a majority of IA recipients is presumably unaffected by the offer. In particular, there can be no program impact on the eligibility status of the 54 percent of the applicant population who are eligible even in the absence of the supplement offer (that is, the fraction of the control group who are eligible in month 13). Moreover, very little (if any) impact would be expected among individuals who would normally leave IA within a couple of months (10–20 percent of the applicant population), and no such impact is evident in the data. Thus, the eligibility status of roughly 70 percent of all new IA applicants is presumably unaffected by the offer of SSP. A 3 percentage-point impact on

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[38]These additional covariates are age, age-squared, a dummy for age under 25, and a dummy for people whose age had to be allocated; a Vancouver site dummy; a male gender dummy; two dummies for less than high school or more than high school education; counters of the number of children aged 0–5, 6–12, 13–18, and the number of other adults in the household; a married dummy; a dummy indicating that the individual's parents had received IA; the number of months on IA in the four years prior to the baseline and in the last two years; a dummy for no IA in the two years prior to the current spell; a counter for the number of times the individual moved in the past five years and dummies for individuals who own their own home or receive housing subsidies; the number of years the individual has worked and a dummy if she never worked; indicators for the presence of physical or emotional work limitations; a dummy for individuals born in Canada and dummies for seven ethnic groups (Asian, First Nation, Indian, Middle Eastern, Black, Latin American, European, or Canadian); indicators for working at the baseline and looking for work; four indicators for having zero, two, three, or four IA checks at the baseline, and interactions of these dummies with the indicator for working at the baseline.

. [39]Actually, the largest impacts on IA receipt and benefits occur in month 9, but the impacts in this month are not significantly different from the impacts in month 11.

the overall fraction of individuals eligible for SSP suggests a behavioural change in roughly 1 in 10 of the remaining population.

Time Pattern of the Impacts

Although the program impacts on SSP eligibility in Table 3 are all small and somewhat imprecise, it is interesting to study the time pattern of impacts in the later months of the experiment. In particular, it is interesting to ask whether the 12-month eligibility criterion leads to a bigger impact on the behaviour of the program group as the eligibility threshold approaches. For example, in any given month a certain fraction of both the control group and the program group who are still on welfare may learn of new job opportunities or resolve the personal problems that prevent them from working. The availability of SSP might lead some program group members in this situation to remain on IA, even though they would leave IA if they were in the control group. Furthermore, the fraction of the program group who decide to wait until the end of their eligibility window before leaving IA might rise as the number of additional months on IA needed to establish SSP eligibility falls. Such behaviour would lead the estimated program impacts to widen toward the end of the eligibility window.[40] Examination of the data in Table 3 shows limited evidence of widening impacts in the last months of the experiment. For example, between months 9 and 13 the unadjusted impact on SSP eligibility rose by 0.8 percentage point.

Nevertheless, the fact that month 9 of the applicant experiment includes data for individuals who have been on IA for 9–13 months makes it difficult to draw precise inferences on the time pattern of the program impacts. To investigate timing issues more clearly, we re-estimated the impacts for the 70 percent of the sample who had received exactly one IA check prior to random assignment. All the program group members of this subsample reach the end of their SSP eligibility determination period in month 12 of the experiment. The estimated impacts for this one-check subsample are presented in Appendix Table A2 and show a similar pattern to the estimates in Table 3, although the magnitudes of the overall program effects on SSP eligibility and IA recipiency are slightly smaller than the impacts for the overall sample. As in Table 3, the program impacts for the one-check subsample rise slightly over the last four months of the experiment but show no sharp increases in the last one or two months.[41]

An alternative way of examining the timing issue is to align the data for all individuals by the number of months since entering welfare.[42] Appendix Table A3 shows the fractions of indi-

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[40]Note that the potential magnitude of any widening is limited by the rate the *control* group loses SSP eligibility. For example, if all the program group members who were still eligible for SSP in month 10 (60.7 percent) had stayed on welfare for the next two months, the growth in the magnitude of the program impact from month 10 to month 12 would equal the fraction of the control group who left IA in months 11 and 12 (3.4 percent of the control group).

[41]To determine whether impacts varied with the number of months of eligibility prior to random assignment, we ran regressions for each post-random assignment month (1 through 13) with the full set of covariates plus interactions between the number of IA checks received prior to random assignment (which ranged from zero to four) and the program group dummy. The dependent variables in these regressions were the indicators for whether the individual is still potentially eligible for SSP and whether the individual is on IA in a given month. Out of 26 sets of interactions (13 months, two dependent variables), only 3 were statistically significant at the 10 percent level or lower. None was significant after month 5. We conclude from these results that response to the SSP offer does not vary with the number of months remaining to establish eligibility subsequent to random assignment.

[42]A disadvantage of this approach is that different individuals in the program group have known about the avail-

(continued)

viduals in the control group and the program group who left IA in each month after first entering welfare (up to month 13).[43] A chi-squared test on this table shows no significant overall difference between the program group and the control group (the p-value is 0.61). However, a comparison of the associated survivor functions for the two groups reveals a pattern similar to the pattern of being on IA shown in Table 3.[44] Estimates of the differences between the raw fractions of individuals still on IA in the program group relative to the control group in each month since entering IA are also tabulated in Appendix Table A3, along with regression-adjusted estimates of these differences. In the twelfth month after entering IA, for example, an extra 2.7 percent of the program group is still on IA relative to the control group. The regression-adjusted estimate of this gap is 3 percentage points, and is just significant at the 10 percent level. As in Table 3 and Appendix Table A2, the excess fraction of the program group on IA tends to rise over time, although there are no sharp jumps in the eleventh or twelfth month on welfare. We conclude that the magnitudes and time patterns of estimated program impacts in the applicant experiment are quite robust to the way the data are aligned.[45]

It may seem surprising that the availability of SSP did not have a stronger impact on IA receipt near the end of the eligibility window, when program group members who were still eligible needed only a few more months on IA to establish eligibility. However, as we have indicated, the fraction of individuals on IA in the control group does not change much during the latter months of eligibility for SSP, suggesting that the *excess* fraction of the program group remaining on IA cannot change much during these months. Additionally, it is possible that discomfort with being on welfare, even for only a few more months, might be strong enough to outweigh the potential benefits of SSP.

Labour Market Impacts

The second panel of Table 3 (Table 3b) and Figures 4–6 show the means and program impacts for the three labour market outcomes.[46] The labour market data for the control group show steadily increasing employment, earnings, and hours in the months following random assignment. Although it might have been expected that the delayed IA exit behaviour of the program group would be reflected in a parallel "delayed labour market entry" effect (that is, a negative impact on the labour market outcomes), the program group actually had slightly bigger

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ability of SSP for differing amounts of time.

[43]Month 13 in Appendix Table A3 is *not* the same as month 13 in Tables 3 and 5.

[44]The survivor function is simply the fraction of individuals who are still on IA in a given month since first receiving IA. The survivor functions of the program and control groups relative to the month of random assignment are plotted in Figure 2.

[45]We also estimated a series of Weibull hazard models for the rate of leaving IA. Excluding covariates, these models show a 7.4 percent lower rate of leaving IA for program group members, but the effect is not statistically significant (p-value=0.14). When covariates are added to the Weibull model the rate of leaving IA for the program group is 9.4 percent lower and is statistically significant at conventional levels (p-value=.06). It should be noted that hazard models are appropriate only for estimating differences between a program group and a control group under extremely restrictive assumptions — see, for example, Ham and LaLonde (1996).

[46]The labor market impacts for each month are derived using the sample of individuals with labor market data for that month. For months 1–7 the sample size is 3,055 (1,528 controls, 1,527 programs); for month 8 the sample size is 3,045 (1,521 controls, 1,524 programs); for month 9 the sample size is 2,986 (1,493 controls, 1,493 programs); and for month 10 the sample size is 2,450 (1,241 controls, 1,209 programs).

Figure 4
Average Monthly Earnings, Applicant Sample

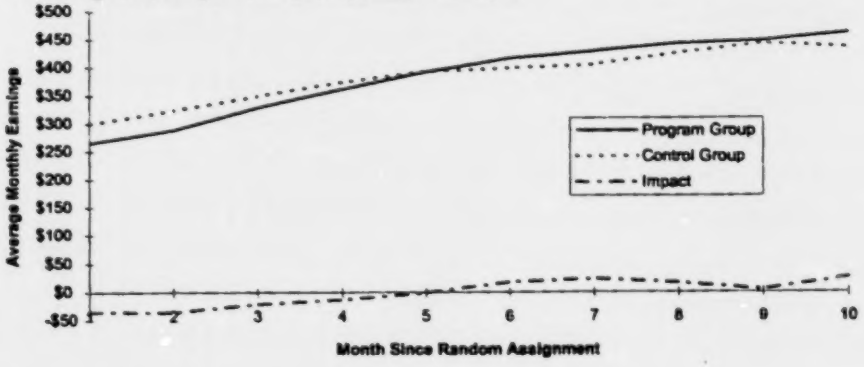


Figure 5
Average Monthly Hours Of Work, Applicant Sample

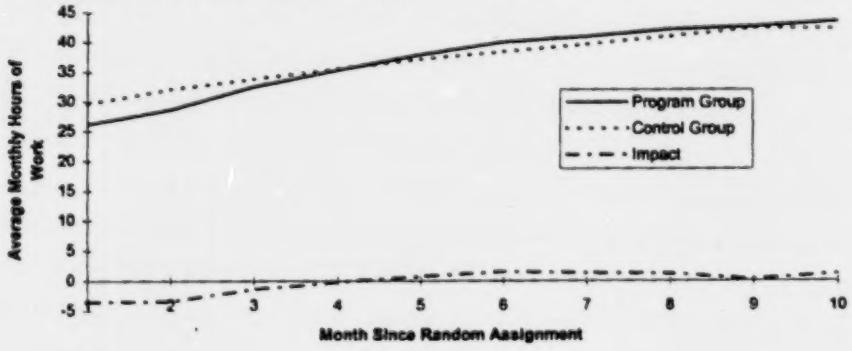
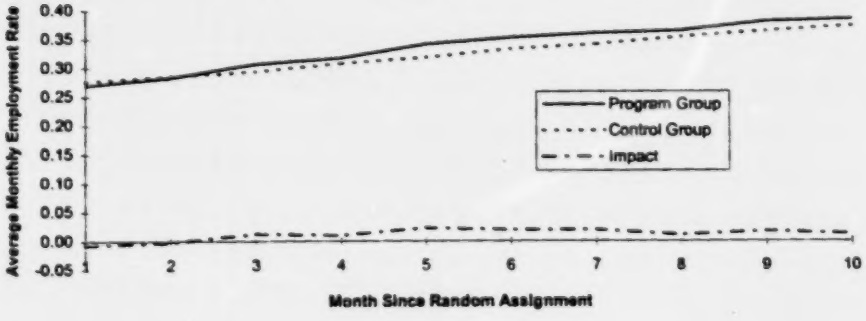


Figure 6
Average Monthly Employment Rate, Applicant Sample



gains in employment, earnings, and hours than did the controls. Closer examination of the data (not reported in Table 3) reveals that the probability of working while receiving IA rose slightly in the program group relative to the control group, whereas the probability of working and not receiving IA fell slightly.[47] Since neither relative effect is statistically significant in most months, however, these differences must be treated cautiously.

Variation in Impacts Across Subgroups

As we have emphasized, the availability of SSP would not be expected to exert the same effect on the behaviour of all recent IA applicants. Applicants who would otherwise experience very short or very long IA spells are presumably less likely to change their behaviour than those who would otherwise leave IA in 6–12 months. One way to evaluate the potential variation in program impacts is to estimate models in which the program effect is allowed to vary by individual characteristics that may be correlated with the expected length of stay on welfare. Table 4 presents simple F-tests for the inclusion of such program interaction effects in OLS regression models for the events of final (month 13) SSP eligibility and receiving IA in month 11.[48] All the models include the 42 baseline covariates as main effects; different rows of the table add interactions of subsets of the covariates with the program group dummy.[49]

The test results show little indication that the SSP program impact varies systematically across individuals: none of the sets of interaction effects is jointly significant at even the 20 percent level.[50] Of course, even assuming a homogeneous treatment effect, the estimated program impacts are only marginally significant. Given the small magnitude of the mean program impacts and the relatively small sample sizes in the experiment, it is difficult to identify statistically significant differences across subgroups.

"Informed" Versus "Uninformed" Program Group Members

Although the evidence in Table 2 suggests that 50–75 percent of the program group had fairly precise knowledge of the SSP program, a sizeable minority were relatively poorly informed. Judging by welfare recipients' knowledge of *other* income assistance features, some

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[47]It is possible that in anticipation of becoming eligible for SSP and working full time, some program group members might take part-time jobs the months following random assignment, so that employment would be actually higher among program group members relative to control group members.

[48]As indicated earlier, these are not the months with the largest impacts, but interactions for every other post-baseline survey month yield the same conclusions.

[49]Specifically, we present probability values for the test $\gamma = 0$ in OLS regression models of the form:
$y_i = P_i\alpha + X_i\beta + P_iX_i\gamma + e_i$, where y_i is the dependent variable for individual i, P_i is a dummy for membership in the program group, X_i is a set of baseline characteristics for individual i, α, β, and γ are parameters to be estimated, and e_i is a residual.

[50]If we consider only residential mobility alone (one of the three characteristics in row 7 of Table 4), a significant interaction effect occurs on the probability of receiving IA benefits. If the individual had not changed residences in the five years prior to baseline, the program group has a statistically significant 10-percentage-point higher probability of receiving IA than the control group. For each residential move within the prior five-year period, the impact is reduced by a statistically significant 2 percentage points. This suggests that entry effects are more likely for IA recipients with a more stable social and economic environment. These may also be individuals with a greater knowledge of the "rules" of the welfare system, which, in turn, might lead them to comprehend more fully the advantages offered by SSP.

Table 4: Tests for Variation in Program Impact on Probability of SSP Eligibility and IA Receipt in Month 11 Across Subgroups

Interaction Added to Base Specification	Number of Interactions	P-values of Interaction Terms: Eligible	IA, month 11
1. Age effects (quadratic plus indicators for age under 25 and for allocated age)	4	0.43	0.63
2. SSP site (Vancouver vs. New Westminster)	1	0.80	0.70
3. Gender (male vs. female)	1	1.00	1.00
4. Education (indicators for less than high school and some post-secondary)	2	0.55	0.84
5. Family structure at baseline (number of children in three age ranges, 0-5, 6-12, and 13-18; number of other adults; married dummy)	5	0.73	0.92
6. IA history (number of months of IA in last four years and last two years; dummy for no IA in last two years; dummy if parents on IA)	4	0.62	0.29
7. Characteristics of home (indicators for owning home and receiving rent subsidy; number of residential moves in last five years)	3	0.58	0.86
8. Employment history (indicator for no job experience; number of years of work experience)	2	0.27	0.26
9. Employment status at baseline (indicators for working or looking at baseline; indicators for physical or emotional limitations on work)	4	0.98	1.00
10. Nativity/ethnicity (indicators for Canadian born and for seven ethnic groups)	8	0.35	0.58
11. Duration of IA spell at baseline and interactions of length of spell (with dummy for working at baseline)	8	0.93	0.86
12. All interactions	42	0.38	0.53

Notes: Table reports the probability values of F-tests for the exclusion of interactions of the program-group dummy with various other covariates, in OLS regression models for the event of eligibility for SSP in month 13 and the event of receiving IA benefits in month 11. All models are estimated on a sample of 3,315 observations for the program group and control group, and include a program group dummy and 42 covariates.

people would be unfamiliar with the supplement program even if SSP were a permanent feature of the IA system. Nevertheless, the program impacts estimated in Table 3 might be larger if more of the program group were fully informed about the nature of SSP.

Since all members of the program group were provided with the same information, it is not possible to conduct an experimental evaluation of the effects of different levels of information on the magnitude of the delayed exit effect. As an alternative, we used the responses to the question "how long does someone need to be on income assistance to receive money from SSP?" to divide the program group into those who were well informed about SSP (as of the 12-month survey) and those who were less informed.[51] Just over one-half of the program group were well informed by this criterion (see Table 2). We then compared SSP eligibility and IA recipiency rates of the informed and uninformed subgroups with the rates of the control group.

It is important to underscore that such comparisons are not necessarily valid, since individuals in a *selective* subset of the program group may differ systematically from members of the overall control group. Some of these differences may be eliminated by controlling for observed characteristics in a standard regression framework. Other unobserved differences may persist, however, leading to differences in behaviour that are not attributable to a true program effect.

Since knowledge of SSP was measured in the 12-month survey, we can distinguish only between informed and uninformed program group members within the subset of those who responded to that survey. We therefore restrict attention to program group members and controls who responded to the 12-month survey. The first four columns of Table 5 show the fractions of the control group, the overall program group, and the informed and uninformed subsets of the program group who were still potentially eligible for SSP in different months after random assignment. The next two columns show raw and regression-adjusted estimates of the impact of the supplement offer on potential SSP eligibility for the overall program group relative to the control group. These show a similar time pattern to the estimates in Table 3, although the impact estimates for the subsample of respondents to the 12-month survey are slightly larger in magnitude than the estimates for the full sample in the applicant experiment. For example, the adjusted impact on potential SSP eligibility in month 13 is 3.5 percentage points among the 12-month survey responders, versus 3.1 percentage points in the entire sample.

Comparisons of SSP eligibility within the two subsamples of the program group show that the informed program group members are less likely to have remained on IA and retained SSP eligibility than those in the uninformed program group. This gap is consistent with other features of the two subgroups: for example, the uninformed group has a significantly larger fraction of high school dropouts and immigrants, whereas the informed group has a noticeably higher fraction of people who were working at the time of the baseline survey. Consequently, as shown in the "raw program impact" columns of Table 5, the gaps in SSP eligibility between the informed subgroup and the overall control group are slightly smaller than the corresponding gaps between the uninformed subgroup and the overall control group. Adjustments for the *observed* characteristics of the different subgroups raise the program impacts for the informed group and lower them for the uninformed group. As indicated by the test statistics in the final column of the

[51] Recall that the 12-month survey was administered *just before* individuals in the program group were informed of their SSP eligibility status.

Table 5: Means of Income Assistance and Labour Market Outcomes by Program Group and Estimated Impacts of Applicant Program: Overall Sample of Respondents to 12-Month Survey, and Informed Versus Uninformed Program Group

	Percent Still Eligible for SSP				Program Impacts						Probability Value for Test of Equality of Adjusted Impacts
		Program Group			All Responders		Informed Program Group Relative to Controls		Uninformed Program Group Relative to Controls		
Month	Controls	All	Informed	Uninformed	Raw	Adjusted	Raw	Adjusted	Raw	Adjusted	
1	100.0	100.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
2	95.5	96.3	96.5	96.2	0.8	0.8	0.9	1.0	0.6	0.6	0.69
	(0.5)	(0.5)	(0.7)	(0.7)	(0.7)	(0.7)	(0.8)	(0.8)	(0.9)	(0.9)	
3	87.4	88.2	88.0	88.4	0.9	1.0	0.7	1.1	1.1	0.8	0.85
	(0.9)	(0.8)	(1.2)	(1.2)	(1.2)	(1.1)	(1.4)	(1.4)	(1.5)	(1.4)	
4	80.0	82.1	82.5	81.8	2.1	2.3*	2.4	3.3**	1.7	1.2	0.27
	(1.0)	(1.0)	(1.4)	(1.4)	(1.4)	(1.3)	(1.7)	(1.6)	(1.8)	(1.7)	
5	75.2	78.3	78.3	78.2	3.1*	3.4**	3.1*	4.3**	3.1	2.4	0.34
	(1.1)	(1.1)	(1.5)	(1.5)	(1.5)	(1.4)	(1.8)	(1.7)	(1.9)	(1.8)	
6	71.1	74.0	73.6	74.3	2.9*	3.2**	2.6	4.0**	3.2	2.4	0.45
	(1.2)	(1.1)	(1.6)	(1.6)	(1.6)	(1.5)	(1.9)	(1.9)	(2.0)	(1.9)	
7	68.0	70.4	70.4	70.3	2.4	2.7*	2.4	4.1**	2.4	1.2	0.19
	(1.2)	(1.2)	(1.6)	(1.7)	(1.7)	(1.6)	(2.0)	(1.9)	(2.1)	(1.9)	
8	65.2	67.4	67.5	67.3	2.2	2.6*	2.3	4.3**	2.2	0.8	0.13
	(1.2)	(1.2)	(1.7)	(1.7)	(1.7)	(1.6)	(2.1)	(1.9)	(2.1)	(2.0)	
9	62.9	65.0	64.9	65.0	2.1	2.6*	2.1	4.3**	2.2	0.8	0.14
	(1.2)	(1.2)	(1.7)	(1.8)	(1.7)	(1.6)	(2.1)	(2.0)	(2.2)	(2.0)	
10	59.7	62.8	62.8	62.9	3.2*	3.6**	3.1	5.4***	3.2	1.6	0.11
	(1.3)	(1.2)	(1.7)	(1.8)	(1.8)	(1.6)	(2.1)	(2.0)	(2.2)	(2.0)	
11	58.2	60.7	59.8	61.8	2.5	3.0*	1.6	3.9*	3.5	2.0	0.43
	(1.3)	(1.2)	(1.7)	(1.8)	(1.8)	(1.7)	(2.2)	(2.0)	(2.2)	(2.1)	
12	56.5	59.4	58.6	60.1	2.8	3.4**	2.1	4.7**	3.6	2.1	0.27
	(1.3)	(1.3)	(1.7)	(1.8)	(1.8)	(1.7)	(2.2)	(2.0)	(2.2)	(2.1)	
13	56.4	59.4	58.6	60.1	3.0*	3.5**	2.3	4.8**	3.8*	2.2	0.28
	(1.3)	(1.3)	(1.7)	(1.8)	(1.8)	(1.7)	(2.2)	(2.0)	(2.2)	(2.1)	

Notes: Standard errors are given in parentheses. N/A = not applicable. Samples include only individuals who completed the 12-month survey (1,527 controls and 1,528 program group members). "Informed program group" refers to the set of 793 individuals who were aware of the 12-month eligibility rule for the SSP program at the time of the 12-month survey. "Uninformed program group" refers to the set of 735 individuals who were not aware of the 12-month eligibility rule. Adjusted program impacts are obtained from a model that pools all controls and programs and includes dummies for informed programs and uninformed programs, as well as 42 other covariates.

Significance levels are as follows for impacts, two-tailed t-test: *p<10 percent, **p<5 percent, ***p<1 percent.

table, however, the differences in the adjusted impacts for the two subgroups are generally not statistically significant.

The adjusted impacts for the informed and uninformed subgroups are suggestive. On the one hand, the adjusted impacts for the uninformed program group are small and uniformly insignificant, consistent with the hypothesis that few uninformed individuals actually changed their behaviour in response to the SSP offer. Their higher rates of SSP eligibility than either the control group or the informed program subgroup are attributable to such characteristics as low education that make them less likely to leave IA even in the absence of a program impact. On the other hand, the adjusted program impacts for the informed subsample are about 30–40 percent larger than the adjusted impacts for the program group as a whole, and statistically significant throughout the later months of the eligibility determination period.

It is possible (but by no means necessarily the case) that these adjusted impacts represent an upper bound on the impacts that would be observed with much more intensive information being disseminated about SSP. In particular, two things must be true for the adjusted impacts of the informed subgroup to represent such an upper bound. First, there can be no unobserved differences between individuals in the informed subgroup and the control group that lead to differences in their IA participation behaviour. Second, the behavioural effect of the SSP supplement offer must be the same for the informed subgroup and for people in the uninformed subgroup who could potentially respond to the SSP offer if they understood it. Since we do not know whether these two conditions are satisfied, we reiterate that the estimates in Table 5 must be interpreted very cautiously.

Summary of Impact Estimates

To summarize, the impact estimates in Table 3 and Figures 2–6 suggest a modest delayed exit effect on the welfare participation of the program group, but no corresponding reduction in labour market activity. The estimated impacts on IA receipt, average IA benefits, and potential SSP eligibility emerge between the fourth and tenth months of the experiment and peak near the close of the 12-month eligibility window. The peak impacts are about 3 percentage points, and are just significant at the 10 percent level. There is no indication that the program impacts vary systematically across individuals with different baseline characteristics, although this might be explained by the modest magnitude and only limited statistical significance of the overall program impacts. Finally, program impacts for the roughly 50 percent of the program group who were well informed about SSP near the end of their 12-month waiting period for potential eligibility are about 30–40 percent larger than the impacts for the entire program group. These impacts suggest an upper-bound estimate of about 5 percentage points on the delayed exit effect of the SSP supplement offer, if all IA applicants were well informed.

Post-Eligibility Behaviour

Identifying a Comparison Group from the Recipient Experiment

Having found some evidence of a modest delayed exit effect among the program group members, it is of interest to compare the SSP take-up rate of program group members who became eligible for the supplement with the take-up rate of program group members in the recipient experiment. While people in the entry effect experiment knew in advance of their pending

eligibility for SSP, program group members in the recipient experiment received no "advance warning." Assuming that the supplement offer causes some people to prolong their stay on welfare, these delayed leavers would be expected to take up the supplement offer relatively quickly once their eligibility is established. Evidence that eligible individuals in the entry effect experiment take up the earnings supplement at a faster rate than otherwise similar individuals in the recipient experiment would therefore represent corroborating evidence in support of a delayed exit effect.

An important caveat is that the comparison should involve *otherwise similar* individuals in the two experiments. As noted in the discussion of Table 1, longer-term welfare recipients enrolled in the SSP recipient experiment are, on average, less "job ready" than the recent welfare applicants enrolled in the entry effect experiment. Even after spending 12 months on IA to establish SSP eligibility, individuals in the applicant experiment still have less time on welfare, on average, than do individuals in the recipient experiment. It would not be surprising, then, to see a faster exit rate from welfare and onto SSP among the applicants than the recipients.

Within the recipient sample it is nevertheless possible to identify individuals whose welfare histories are similar to those in the new applicant sample. Figure 7 shows the fractions of individuals receiving IA benefits in various pre-baseline months for three samples: the subset of the program group in the entry effect experiment who became eligible for SSP ("eligible applicants"), the entire sample of single parents in British Columbia in the recipient experiment (all of whom are eligible), and a subset of the British Columbia recipients who were off IA 17 or 18 months prior to the recipient baseline (again, all of whom are eligible). For comparability between experiments, a new "baseline" is defined for the recipient group that is 11 months later than their actual baseline, so that the recipients become eligible for SSP in (roughly) the same month as applicants.

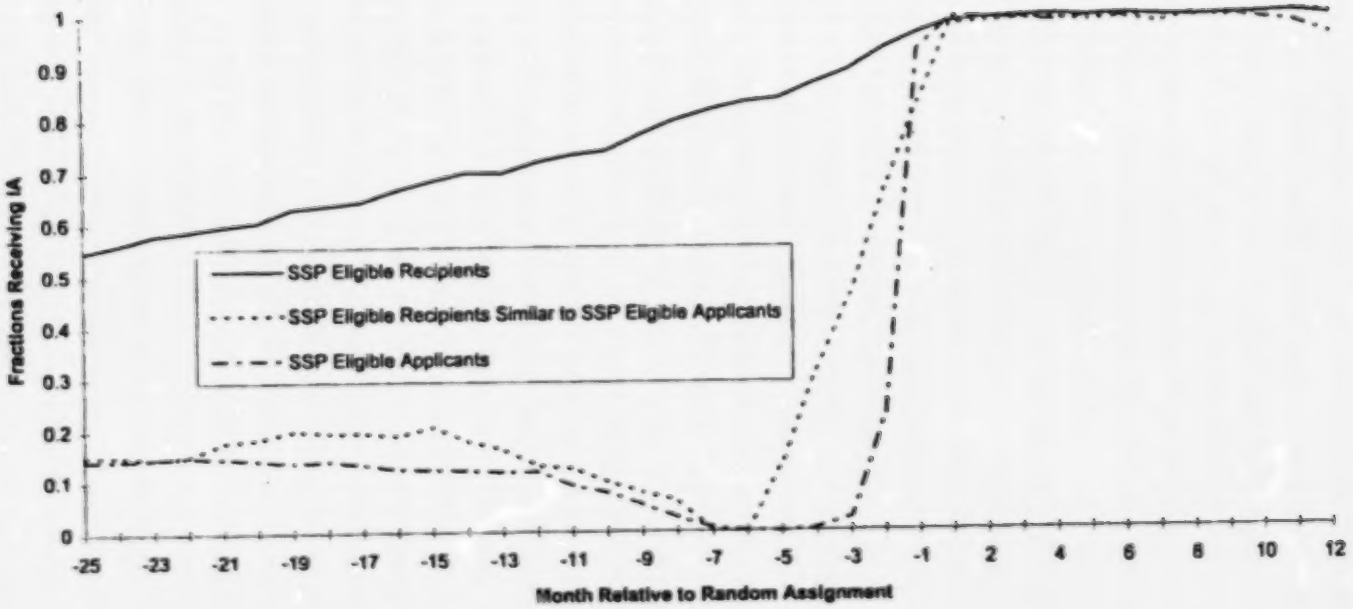
As the figure makes clear, the overall sample of British Columbia recipients has a much higher rate of IA participation in the pre-baseline period than does the sample of eligible applicants. This is a result of the applicant sample's eligibility criterion, which required individuals to be off IA in the six months prior to their baseline month. When a similar criterion is applied to the recipients, the pre-baseline IA rates of the resulting subsample are very close to those of the eligible applicants. Thus, a natural comparison group for the post-eligibility behaviour of the applicants is the subset of recipients with a similar IA history, although unobserved differences may remain between the two groups.

SSP Take-Up and Notification of Eligibility

After individuals in the program group had completed their 12-month interview (typically in the tenth or eleventh month after random assignment), SSP eligibility was determined by reviewing the most recently available IA records.[52] SSP-eligible individuals were then informed by mail of their status, and invited to attend an SSP orientation session similar to the one offered to individuals in the recipient experiment. A total of 93 percent of eligible individuals in the appli-

[52]The SSP design called for the survey to be fielded in the twelfth month of IA receipt, prior to eligibility determination. Interviewers tried again in the thirteenth and, if necessary, the fourteenth month if they couldn't conduct an interview, delaying eligibility determination for some cases. If the third interview attempt failed, eligibility was determined without the 12-month interview.

Figure 7
Income Assistance Histories of SSP-Eligible Applicants, SSP-Eligible Recipients, and SSP-Eligible Recipients Who Were Off Income Assistance 6-7 Months Prior to Start of Spell that Established Eligibility



cant experiment attended such a session, compared with 95 percent in the recipient experiment.

Once informed of their SSP eligibility, individuals had 12 months to find full-time work, leave IA, and begin receiving SSP payments. SSP was available for up to 36 months after the first supplement pay period. Supplement initiators who lost a job could return to IA at any time during their three-year eligibility window, and re-initiate supplement payments whenever their hours exceeded the minimum threshold. Operational details of the supplement program are described in more detail in Mijanovich and Long (1995) and Card and Robins (1996).[53]

Table 6 shows the fractions of eligible applicants who take up SSP in each month following notification of SSP eligibility, and comparable fractions of individuals in the recipient experiment who take up SSP in each month after being informed of their program status. The table shows that the eligible applicants did not move into SSP relatively more quickly than the subsample of recipients who had similar IA histories. In fact, eligible recipients appeared to move into SSP more quickly, although not significantly so. For example, within two months of notification, 10.6 percent of the eligible applicants had taken up SSP, compared with 14.6 percent of the similarly chosen recipient subsample. The difference (shown in the right-most column of Table 6) is not statistically significant, suggesting that the behaviour of eligible applicants and that of similarly chosen recipients is essentially the same. By the fourth month, the difference narrows and thereafter the take-up rates of the eligible applicants exceed the take-up rates of the similarly chosen recipient subsample but, again, the differences are not statistically significant. Both groups have much higher take-up rates than the overall recipient program group, consistent with the fact that recipients as a whole have much higher pre-baseline welfare participation rates (see Figure 3), and would not be expected to move to full-time work as quickly.

These simple comparisons of SSP take-up behaviour do not support the notion that a subset of applicants are delaying their exit from IA to qualify for SSP and immediately take jobs. However, after about five months, there is evidence that the SSP take-up rate among applicants exceeds the take-up rate of similar recipients by about the amount of the delayed exit effect (3 percentage points), but the difference is not statistically significant.[54] Although take-up of SSP among applicants and similar recipients does not appear to be different (especially in the early months), these results should be treated with caution, because we cannot be certain that the groups being compared have identical unobserved characteristics that induce them to seek employment and hence become eligible for SSP.

Conclusions

Any targeted social program runs the risk of inducing people to change their behaviour in order to become eligible for the program. In the case of training programs or earnings supplements for welfare recipients, previous analysts have argued that these "entry effects" could be sizeable and could account for a significant portion of the overall costs of the program. In the Self-Sufficiency Project, the possibility of entry effects was recognized early on, and a separate experiment was conducted to measure their importance. For a program like SSP, there are two potential sources of entry effects. On the one hand, people who otherwise would not be on wel-

[53]Briefly, individuals were required to mail in pay stubs (or similar information) for the purpose of validating their hours and earnings.

[54]By month 8 the difference narrows and remains statistically insignificant.

Table 6: Comparisons of SSP Take-up Rate Among Eligible Program Group Members of Entry Effect Demonstration and British Columbia Program Group Members of Recipient Demonstration

Months Since Notified Eligible	Percent Who Have Begun SSP			
		BC Recipients:		Difference:
	Eligible Applicants (1)	All (2)	Subset Off IA in Pre-baseline Period (3)	Column 1 - Column 3 (4)
1	7.1	5.0	9.7	-2.6
	(0.8)	(0.8)	(3.0)	(3.0)
2	10.6	7.4	14.6	-4.0
	(1.0)	(1.0)	(3.5)	(3.6)
3	13.9	9.2	14.6	-0.7
	(1.1)	(1.1)	(3.5)	(3.7)
4	18.9	12.2	18.4	0.5
	(1.3)	(1.2)	(3.8)	(4.0)
5	21.5	13.4	18.4	3.1
	(1.3)	(1.3)	(3.8)	(4.0)
6	23.3	15.5	21.4	1.9
	(1.4)	(1.4)	(4.1)	(4.3)
7	25.7	17.4	23.3	2.4
	(1.4)	(1.4)	(4.2)	(4.4)
8	27.4	20.0	26.2	1.2
	(1.5)	(1.5)	(4.4)	(4.6)
Sample size	938	714	103	N/A

Notes: Standard errors are given in parentheses. N/A = not applicable. Table entries are percent of group who have begun receiving SSP supplement payments for work in indicated month. BC = British Columbia.

fare at all may apply for IA in order to become eligible for SSP (a "new applicant" effect). On the other hand, some welfare recipients who would normally stay on IA for less than a year may extend their stay in order to meet the one-year qualifying period (a "delayed exit" effect). The SSP entry effect experiment was limited to measuring delayed exit effects, for two reasons. First, conducting an experiment to test for the possibility of a new applicant effect would be very expensive, since a fairly large sample of single parents would be needed to detect statistically significant impacts. Second, because of the stigma and costs associated with applying for IA, the new applicant effect is likely to be considerably smaller than the delayed exit effect, and may in fact be close to zero.

Our analysis of the delayed exit effect suggests that it is fairly small, on the order of 3 percentage points (that is, 3 percent of all new applicants for IA). There does not appear to be any corresponding effect on the labour market outcomes of individuals potentially eligible for SSP. (It was expected that a delayed exit from IA would cause a delayed labour market entry effect.) There are several explanations for the modest size of this delayed exit effect. Over one-half of new welfare applicants stay on income assistance for a year or more anyway. Moreover, short-term welfare recipients appear to be unaffected by the offer of an SSP supplement. Thus, only about one-third of new applicants to income assistance are substantially "at risk" of changing their behaviour in response to the supplement offer. Finally, as is true for other features of the welfare system, not all participants in the entry effect experiment were fully aware of the details of the SSP supplement offer. Our analysis indicates that people in the program group of the applicant experiment had as much or even more information about SSP than typical welfare recipients had on other IA programs. Even among the well-informed subset of the program group, however, the delayed exit effect is relatively modest — on the order of 5 percentage points. On balance, the evidence suggests to us that the 12-month eligibility restriction for the SSP program successfully limits the size of the overall entry effects generated by the supplement offer.

Our finding that short-term income assistance recipients were unaffected by the supplement offer suggests that the "new applicant" effect generated by SSP may also be negligible. If people who have already borne the costs and stigma of applying for welfare are unwilling to stay on income assistance for an additional 9–12 months to get the supplement, we suspect that people who are close to the margin of applying for IA would be similarly unaffected.

The fact that entry effects appear to be small in SSP is noteworthy because the financial incentives offered by SSP are substantial. Moreover, compared with other kinds of welfare innovations, like requirements of training, SSP has no offsetting deterrent effects. If a generous program like SSP has such modest entry effects, we suspect that the entry effects associated with other welfare innovations having similar waiting periods and work requirements may also be small. Of course, further empirical tests of entry effects for other kinds of programs are needed before such a conclusion can be judged as definitive.

Appendix Table A1: Receipt of Income Assistance Prior to Random Assignment and 12-Month Interview Status

Number of IA Checks Received Prior to Random Assignment	Number of Cases (% of all cases)	12 Month Interview Status[a]					
			Respondents (by Number of Months for Which Data Were Collected[b])				
		Nonrespondents	8	9	10	11	12+
4	11	1	10	0	0	0	0
	(.3)	(9.1)	(90.9)	(0.0)	(0.0)	(0.0)	(0.0)
3	81	8	0	59	8	4	2
	(2.4)	(9.9)	(0.0)	(72.8)	(9.9)	(4.9)	(2.5)
2	653	49	0	0	528	64	12
	(19.7)	(7.5)	(0.0)	(0.0)	(80.9)	(9.8)	(1.8)
1	2,332	182	0	0	0	1,921	229
	(70.3)	(7.8)	(0.0)	(0.0)	(0.0)	(82.4)	(9.8)
0	238	20	0	0	0	0	218
	(7.2)	(8.4)	(0.0)	(0.0)	(0.0)	(0.0)	(91.6)
0-4	3,315	260	10	59	536	1,989	461
	(100.0)	(7.8)	(0.3)	(1.8)	(16.2)	(60.0)	(13.9)

Notes: Data are based on the SSP applicant sample. The table entries are numbers of individuals in the sample with each pre-random-assignment IA status and each 12-month interview status.

[a]The numbers in parentheses are percentages of the number of cases for that row (i.e., by the number of IA checks received prior to random assignment).

[b]Number of months of post-random-assignment labor market data collected from the individual in the 12-month survey.

Appendix Table A2: Means of Income Assistance and Labour Market Outcomes by Program Group and Estimated Impacts of Applicant Program for the Subset of Individuals with One IA Check Prior to Random Assignment

	Percent Still Eligible for SSP				Percent On Income Assistance				Average Monthly IA Amount ($)			
			Estimated Impact				Estimated Impact				Estimated Impact	
Month	Controls	Programs	Raw	Adjusted	Controls	Programs	Raw	Adjusted	Controls	Programs	Raw	Adjusted
1	100.0	100.0	0.0	0.0	95.9	95.4	-0.5	-0.4	935.6	938.8	3.3	11.9
	N/A	N/A	N/A	N/A	(0.6)	(0.6)	(0.8)	(0.8)	(10.7)	(11.2)	(15.4)	(13.8)
2	96.7	96.3	-0.4	-0.3	87.8	86.4	-1.4	-1.3	853.1	839.1	-14.0	-4.3
	(0.5)	(0.5)	(0.8)	(0.8)	(1.0)	(1.0)	(1.4)	(1.3)	(13.1)	(13.3)	(18.7)	(16.2)
3	89.3	87.9	-1.5	-1.5	80.9	80.6	-0.4	-0.3	811.1	790.7	-20.4	-12.5
	(0.9)	(1.0)	(1.3)	(1.3)	(1.2)	(1.2)	(1.6)	(1.5)	(14.4)	(14.3)	(20.3)	(17.6)
4	81.1	81.2	0.1	0.3	75.6	77.1	1.4	1.8	764.1	745.5	-18.6	-9.3
	(1.2)	(1.1)	(1.6)	(1.5)	(1.3)	(1.2)	(1.8)	(1.7)	(15.1)	(14.6)	(21.0)	(18.5)
5	76.3	77.2	0.9	1.2	72.1	74.3	2.2	2.5	718.8	712.8	-6.1	3.7
	(1.3)	(1.2)	(1.8)	(1.7)	(1.3)	(1.3)	(1.8)	(1.8)	(15.3)	(14.7)	(21.2)	(19.0)
6	71.5	72.4	0.9	1.3	69.3	70.9	1.6	1.7	689.1	685.4	-3.6	5.4
	(1.3)	(1.3)	(1.9)	(1.8)	(1.4)	(1.3)	(1.9)	(1.8)	(15.8)	(15.3)	(22.0)	(19.8)
7	67.8	68.1	0.3	0.6	67.5	68.1	0.6	0.8	665.8	657.3	-8.5	-0.2
	(1.4)	(1.4)	(1.9)	(1.8)	(1.4)	(1.4)	(1.9)	(1.8)	(15.6)	(15.5)	(22.0)	(19.9)
8	64.5	64.6	0.1	0.4	65.9	66.4	0.4	0.8	652.4	638.7	-13.7	-4.3
	(1.4)	(1.4)	(2.0)	(1.9)	(1.4)	(1.4)	(2.0)	(1.9)	(15.8)	(15.5)	(22.1)	(20.1)
9	61.7	62.2	0.5	0.8	63.3	65.7	2.4	2.5	625.4	636.9	11.5	19.1
	(1.4)	(1.4)	(2.0)	(1.9)	(1.4)	(1.4)	(2.0)	(1.9)	(16.0)	(15.7)	(22.4)	(20.5)
10	58.3	60.0	1.7	1.8	62.0	63.9	2.0	2.0	610.3	619.4	9.1	14.9
	(1.5)	(1.4)	(2.0)	(1.9)	(1.4)	(1.4)	(2.0)	(1.9)	(16.1)	(15.6)	(22.4)	(20.7)
11	56.3	57.5	1.1	1.2	61.6	64.0	2.4	2.4	602.8	624.1	21.3	26.9
	(1.5)	(1.4)	(2.1)	(1.9)	(1.4)	(1.4)	(2.0)	(1.9)	(15.8)	(15.7)	(22.3)	(20.5)
12	54.0	55.7	1.7	1.8	61.8	63.3	1.5	1.7	613.9	606.6	-7.2	-1.6
	(1.5)	(1.4)	(2.1)	(1.9)	(1.4)	(1.4)	(2.0)	(1.9)	(16.1)	(15.5)	(22.4)	(20.7)
13	54.0	55.7	1.7	1.8	62.1	61.5	-0.7	-0.5	608.6	599.9	-8.7	-2.3
	(1.5)	(1.4)	(2.1)	(1.9)	(1.4)	(1.4)	(2.0)	(1.9)	(15.8)	(15.7)	(22.2)	(20.6)

(continued)

. Appendix Table A2, continued

Month	Percent Employed				Average Monthly Earnings ($)				Average Monthly Hours of Work			
			Estimated Impact				Estimated Impact				Estimated Impact	
	Controls	Programs	Raw	Adjusted	Controls	Programs	Raw	Adjusted	Controls	Programs	Raw	Adjusted
1	27.6	25.5	-2.1	-0.8	284.1	257.1	-27.0	-9.9	28.2	24.7	-3.4	-1.8
	(1.4)	(1.3)	(1.9)	(0.9)	(20.6)	(19.5)	(28.4)	(21.1)	(1.8)	(1.6)	(2.4)	(1.5)
2	28.6	27.8	-0.9	0.2	306.9	280.9	-25.9	-13.7	30.3	27.5	-2.8	-1.6
	(1.4)	(1.4)	(1.9)	(1.3)	(21.5)	(20.7)	(29.9)	(24.7)	(1.8)	(1.7)	(2.5)	(1.9)
3	29.2	30.9	1.7	2.4	334.2	324.4	-9.8	-0.6	32.3	32.0	-0.3	0.6
	(1.4)	(1.4)	(2.0)	(1.5)	(22.9)	(21.7)	(31.5)	(27.1)	(1.9)	(1.8)	(2.6)	(2.1)
4	30.6	32.1	1.5	2.0	357.4	363.4	6.0	11.2	34.1	35.2	1.1	1.6
	(1.4)	(1.4)	(2.0)	(1.6)	(24.0)	(23.2)	(33.4)	(29.7)	(1.9)	(1.9)	(2.7)	(2.3)
5	31.8	34.6	2.9	3.1	373.3	397.1	23.8	25.2	35.9	37.8	1.9	2.1
	(1.4)	(1.4)	(2.0)	(1.7)	(24.8)	(24.1)	(34.5)	(31.2)	(2.0)	(2.0)	(2.8)	(2.4)
6	33.2	35.8	2.6	2.9	379.3	425.4	46.1	46.5	37.2	40.3	3.1	3.2
	(1.5)	(1.4)	(2.1)	(1.7)	(24.6)	(25.2)	(35.2)	(31.9)	(2.0)	(2.0)	(2.8)	(2.5)
7	34.5	36.4	1.9	2.1	384.8	434.1	49.3	50.5	38.2	41.0	2.8	3.0
	(1.5)	(1.5)	(2.1)	(1.8)	(24.3)	(25.6)	(35.3)	(32.2)	(2.0)	(2.0)	(2.8)	(2.5)
8	36.0	36.8	0.8	0.8	409.7	445.4	35.7	37.3	39.8	41.7	1.8	1.8
	(1.5)	(1.5)	(2.1)	(1.8)	(24.9)	(26.1)	(36.1)	(33.1)	(2.1)	(2.0)	(2.9)	(2.6)
9	36.6	38.1	1.5	1.7	429.1	449.3	20.2	22.8	41.1	41.8	0.8	0.8
	(1.5)	(1.5)	(2.1)	(1.8)	(26.2)	(25.5)	(36.6)	(33.5)	(2.1)	(2.0)	(2.9)	(2.6)
10	37.6	38.7	1.1	1.3	430.8	464.2	33.4	36.9	41.5	42.9	1.4	1.4
	(1.5)	(1.5)	(2.1)	(1.9)	(26.1)	(26.2)	(36.9)	(33.9)	(2.1)	(2.0)	(2.9)	(2.6)

Notes: Estimated standard errors are given in parentheses. N/A = not applicable. SSP eligibility and income assistance outcomes are derived from Income Assistance records. Employment, earnings, and hours data are derived from the 12-month survey. Estimated impacts are differences in mean outcomes between individuals in the program group and control group. The raw estimated impact is a simple difference in mean outcomes; the adjusted estimated impact is derived from a regression model that includes 42 covariates and an indicator for individuals in the program group. See text for a list of the included covariates.

Models for SSP eligibility, IA receipt, and amount of IA received are estimated on a sample of 2,332 individuals who received one IA check prior to random assignment. Models for employment, earnings, and hours are estimated on a subset of 2,150 individuals who received one IA check prior to random assignment and completed a 12-month survey.

Significance levels are as follows for impacts, two-tailed t-test: *p<10 percent, **p<5 percent, ***p<1 percent.

Appendix Table A3: Distribution of Income Assistance (IA) Leaving Times and Cumulative Excess Percent of Program Group Members Still on IA

Number of months since entering IA	Percent Leaving IA in Month		Cumulative Excess Percent of Program Group Still on IA	
	Controls	Programs	Raw	Adjusted
1	0.5	1.0	-0.6	-0.5
2	3.7	4.2	-1.0	-0.7
3	8.3	8.3	-1.0	-0.5
4	8.8	7.6	0.2	0.7
5	6.2	5.5	0.9	1.4
6	5.2	4.9	1.3	1.7
7	4.7	4.2	1.8	2.2
8	3.5	3.5	1.9	2.3
9	2.8	2.9	1.8	2.2
10	3.2	2.6	2.4	2.8*
11	2.6	2.9	2.2	2.5
12	2.3	1.8	2.7	3.0*
13	1.6	2.0	2.2	2.6
14+	46.6	48.8	N/A	N/A

Notes: Derived from SSP Applicant File. N/A = not applicable. The cumulative excess percent of the program group still on IA is the difference between the fractions of the program group and control group who have left IA up to and including the current month. The adjusted excess percent is derived from a series of linear regression models for the event of remaining on IA up to and including the current month. The models include 42 baseline covariates.

*Significantly different from 0 at the 10 percent level, two-tailed t-test.

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